

Major James Rennell F.R.S.

London Published as the Act directs February 1790

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THE

GEOGRAPHICAL SYSTEM OF HERODOTUS,

EXAMINED; AND EXPLAINED,

BY A

COMPARISON WITH THOSE OF OTHER ANCIENT AUTHORS,

AND

WITH MODERN GEOGRAPHY.

IN THE COURSE OF THE WORK ARE INTRODUCED,

DISSERTATIONS ON THE ITINERARY STADE OF THE GREEKS, THE EXPEDITION OF DARIUS HYSTASPES TO SCYTHIA, THE POSITION AND REMAINS OF ANCIENT BABYLON, THE ALLUVIONS OF THE NILE, AND CANALS OF SUEZ; THE OASIS AND TEMPLE OF JUPITER AMMON, THE ANCIENT CIRCUMNAVIGATION OF AFRICA,

AND

OTHER SUBJECTS OF HISTORY AND GEOGRAPHY.

THE WHOLE EXPLAINED BY ELEVEN MAPS,
Adapted to the different Subjects; and accompanied with
A COMPLETE INDEX.

By JAMES RENNELL,

FELLOW OF THE ROYAL SOCIETIES OF LONDON AND EDINBURGH; AND LATE MAJOR OF ENGINEERS, AND SURVEYOR GENERAL IN BENGAL.

LONDON:

PRINTED BY W. BULMER AND CO. RUSSEL-COURT, CLEVELAND-ROW, ST. JAMES'S,
FOR THE AUTHOR; AND SOLD BY G. AND W. NICOL, BOOKSELLERS
TO HIS MAJESTY, PALL-MALL.

MDCCC.

TO

GEORGE JOHN EARL SPENCER,

VISCOUNT SPENCER, VISCOUNT ALTHORP,

AND

BARON SPENCER, OF ALTHORP,

IN THE COUNTY OF NORTHAMPTON;

KNIGHT OF THE MOST NOBLE ORDER OF THE GARTER,

ONE OF HIS MAJESTY'S MOST HONOURABLE PRIVY COUNCIL,

FIRST LORD COMMISSIONER OF THE ADMIRALTY,

ONE OF THE ELDER BRETHREN OF THE TRINITY HOUSE,

&c. &c. &c.

MY LORD,

IN soliciting the honour of inscribing this book with your Lordship's name, the Author has no wish to intrude on the intervals of leisure, which the important duties of your high office occasionally admit; although he flatters himself that some parts of the work may afford occasional recreation, when your mind, oppressed by political labour, is compelled to seek relief in employments of a less fatiguing nature.

Perhaps they may recal to your Lordship's mind, ideas respecting the history and policy of those nations of antiquity, whose learning and arts we are ambitious of imitating: and whose liberty is a perpetual theme of praise, even amongst us, who have employed ages in perfecting a practical system of our own; which, although subject to decay, like all other human institutions, promises to be of much longer duration than any other on record.

To preserve this wonderful fabric entire, in all its parts, your Lordship joined your councils and exertions at a MOMENTOUS CRISIS. History will relate the acts of YOUR DEPARTMENT—That from the GANGES to the NILE, and from the NILE to the shores of THE SISTER ISLAND, the desperate projects of the inveterate enemy of mankind, against the safety and the interests of THIS EMPIRE, were totally frustrated. Such is the sentiment of a GREAT, an INDEPENDENT, and a GRATEFUL People: and a conviction of its truth, constitutes, in a mind like yours, the proper and envied reward of great national services.

May your Lordship's exertions be still crowned with success; and the period speedily arrive, when those unprincipled men who have shaken the moral and social world to its centre; who keep their own country in chains, and the rest of Europe in alarm, in order to perpetuate their own atrocious system of arbitrary power; shall be dispersed or destroyed. Happily, the effects of the intoxicating draught, administered to a credulous world, by this enemy to social order, have abated; the treachery concealed in the cup, is become

manifest; and mankind are fast recovering that temper of mind, which is suited to their state of being, and to the unalterable laws of nature.

I am, with the greatest respect,

MY LORD,

Your Lordship's obliged,

And faithful humble servant,

J. RENNELL.

London, January 1st, 1800.

PREFACE.

It is possible that the act of presenting a bulky volume, as a part only, of a larger work (although this part be complete in itself, in respect of its proper subject), may startle the Public to whom it is offered. This, however, is the fact. The Author, several years since, undertook the task of correcting the geography, ancient and modern, throughout that part of Asia, situated between India and Europe: in effect, the great theatre of ancient history in Asia, as well as of European commerce, and communication, in modern times. His first object was, to adapt the system so formed, to the use of statesmen and travellers: the next, to apply it to the illustration of such parts of ancient military history, as were, in his idea, deficient, from a want of the necessary aids of geography; and which have been, in a degree, supplied, in latter times.

This task he has some time since performed, to the best of his ability, and as far as his stock of materials admitted: but the work had grown to such a size, that it would have been an act of imprudence in an individual, to venture on so great an expence as the execution of the work, in all its parts, required. In the mean time, however, he has adventured so far, as to prepare the first division of it, consisting of the GEOGRAPHY of HERODOTUS; and which, as preparing

the ground for the remainder of the ancient geography, he now, with great deference, offers to the Public; accompanied with maps necessary to its explanation.

The remaining parts will consist of the ancient geography, as it was improved by the Grecian conquests and establishments; together with such portions of military history, as appear to want explanation. Maps of ancient geography, on scales adapted to the purpose, will accompany it: whilst the modern geography, (in which the most prominent features of the ancient, will also appear) will be contained in a large map, similar in size and scale, to the Four-Sheet Map of India, already in the hands of the Public. It may be proper to remark, that, as the present Volume forms a complete Work of itself, so will each of the succeeding ones; they being no otherwise connected with each other, than as being in the same series. The same is to be understood of some large maps that are to accompany the volumes, but will be too large to be folded into them.

A Map of POSITIONS, intended to explain, and to preserve, the ground-work of the whole geographical construction, will be added. One principal use of this, is, to preserve, in their original and unmixed state, the authorities collected from a great variety of sources; and which may aid the construction of future systems of geography, although a part of the materials may be superseded by those of a better kind: in which case, the geographer, discarding such portions as he finds necessary, may be enabled to make his own use of the rest,

in their original state. Were they to be found only in a *mixed* state, as in the geographical maps, without discrimination of quality; and most probably divested of their originality, by having been formed into a general mass with others, they must either be employed in future, to a disadvantage, or again *sought out;* and if *found at all*, with great and unnecessary loss of time, to the community of science. This portion of the work then, will form, in the least possible room, and at the least expence, a great *depot* of the materials of geography, for future times.

After the above explanation, it will of course, be understood, that the progress of the work, at large, must necessarily depend on the reception given to the present part: and the Author flatters himself, that, in forming the decision, which is finally to determine the fate of the succeeding parts, a due regard will be had, as well to the extent and labour of the *search* after, as of the *compilation* of the materials, that compose this portion of the work, (thus offered as a specimen of the work at large): as amongst such a mass of matter, error, no doubt, must sometimes have lurked, unnoticed; or even have assumed the garb of truth, to deceive.

It is proper that the reader should know, that the Author, being ignorant of the Greek language, could only obtain the knowledge of the TEXT of Herodotus, through the medium of translations. The magnitude of this defect will perhaps be differently estimated, by different persons. It may doubtless be said, with truth, that no *ordinary* reader of Greek, is likely to be so perfect a master of the

subject of Herodotus, by a perusal of the original work, as by translations made by *professed scholars*, who have devoted a great portion of their time, to the study of it: although it must at the same time be allowed, that such scholars, if also skilled in the science of geography, would be by far, the fittest persons to undertake a task of this kind. Such a one, however, has not yet undertaken it: and therefore the Author flatters himself, that, in the existing state of things, his work may be allowed to pass, until the desired coincidence may take place. M. D'Anville was perhaps the fittest person to have executed it: but it may possibly be said, that he was better employed.

On this occasion the Author has followed, almost universally, the English translation by Mr. Beloe; to whom he acknowledges his obligations; and who is consequently entitled to a share of whatsoever credit the Public may allow to the present work.

Sir William Jones, in speaking of the imperfect state of the geography of Asia, has a remark to the following effect: that "until some geographer, equally skilled in the eastern languages, and in the science which he professes," will correct the geography of Asia, the reader of its history, must be content with the present imperfect system. It appears (in the same place*) that Sir William himself meditated this task, but wanted leisure. This is much to be regretted; as well as that the materials which he had collected for that purpose, should have been lost, or destroyed. However, it

* Preface to the History of Nadir Shah.

appears that he did not recollect that very much might be done, by faithful translations of the works of the Oriental geographers, for the use of European ones. It may also be said, that we must be content to receive things in such a way as they may be conveniently, or indeed, at all, executed: and finally, that the most perfect work, is nothing more than the nearest approximation to the truth.

The aids that have been furnished to the Author, in various ways, have been, as on other occasions of this kind, very extensive. Generally speaking, where this could be done, these favours have been acknowledged in the course of the work; but the Author has a pleasure in repeating the names of his friends in this more conspicuous place, although he may hazard the imputation of vanity, in so ostentatiously displaying his resources. He acknowledges his obligations to Sir Joseph Banks, and Sir Charles Blagden; to Mr. Dalrymple, Mr. Marsden, Mr. Wilkins, M. Correa de Serra, and the Doctors Gillies, Gray, and Dryander: to Mr. Browne and Mr. Park, (the African travellers) and to Mr. John Sullivan; to Colonel Kirkpatrick, of the Bengal Establishment, and Captain Cuninghame, of that of Madras, (now Brigade Major to the three regiments of Royal East India Volunteers), the Rev. Mr. Tooke, and Mr. George Nicol. And as an act of justice should not be forborne, through fear of imputed vanity, or presumption, he ventures to add to this list, his two sons, the one of Trinity College, Cambridge, the other of the Bengal Civil Establishment.

It remains that something should be said respecting the Maps, that are meant to explain and to illustrate the different subjects of the book. *Some* of the general maps, may possibly be complained of, for the smallness of their scales; but as they must of necessity be folded into the book, they could not conveniently be made larger. Besides, it was deemed sufficient to give correct *outlines* alone, of a system of geography, the *particulars* of which might be found, generally, in the existing systems; although framed for an age posterior to that of Herodotus. The general maps relating to Western Scythia, to the Satrapies, and to Lybia, are given here, with more detail than the others, because they will be found less perfect, in the existing systems: and it is hoped, that, on the whole, the reader will not often find himself at a loss, in the explanation of the geography. Whensoever it may happen, great aid will be derived from the ancient geography of M. D'Anville (the only system of the kind, that can be deemed at all perfect; and unquestionably, as far as he was in any degree master of the actual geography, a work incomparable in its kind). His maps of the ancient World, of the Roman Empire, Asia Minor, and ancient Egypt, will probably satisfy the reader in every case where he is at a loss, in respect of particular situations, in the maps contained in this work.

To prevent misconceptions, regarding the ancient Map of Egypt, (No. VII.) the reader is informed, that, as no copy is known to exist, from whence the form of the ancient coast of the Delta could be delineated, the Author could do no other than describe it under

its present form. It is almost certain that no considerable change can have taken place either at Canopus or Pelusium: nor can it be supposed that the additions to the intermediate part, can have been such, as to occasion any sensible difference, in a general map: since Herodotus has remarked, that Busiris stood in the middle of the Delta, in which position its supposed remains are now found. It is remarked, in the course of the work, that, as the coast of the Delta advances into deeper water, its progress, in point of extent, must necessarily be slower.

In some of the general maps, a great proportion of modern geography will be found; which it was impossible to separate from the ancient, without much injury to the main subject; as by a comparison of the two, on the spot, the mutual relation to each other, will be best understood. The ancient names have a *dash* under them; if not otherwise distinguished, on the spot.

The bulk of the Volume is unquestionably a fault: and is owing to the Author's having made a wrong calculation of the quantity of matter, at the outset. Had a correct estimate been made, as much of the matter would have been withheld, as to reduce the book to a more moderate size and price. Such, however, as it is, the Author ventures to offer it to an IMPARTIAL PUBLIC; conscious indeed, of its defects; but conscious also, that they do not arise from a remission of labour or attention.

London, January 1st, 1800.

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The WORLD, according to the Idea of HERODOTUS: as far as can be collected from his History.

Explanation

The Names mentioned by Herodotus, have a continuous line under them; and the rest of the ancient Names, a broken line. The modern ones have ▯ ▯ or • to them. The dotted outlines denote generally those Parts, concerning which Herodotus appears to have been in doubt.

Parallel of 60 degrees

Position of St. Petersburg

Ocean

Northern

Hyperboreans

Issedones

Arimaspians

Arigippæi

Thyssagetæ

Budini

Iyrcæ

Darius' Forts

Seceding Royal Scythians

Scythia

Neuri

Androphagi

Melanchlæni

Gerrhus

Maeotis

Massagetæ

Caspian Sea

Chorasmia

Sogdia

Bactria

Aria

Parthia

Media

Assyria

Babylonia

Susiana

Persis

Armenia

Cappadocia

Phrygia

Lydia

Caria

Lycia

Pamphylia

Cilicia

Phœnicia

Palestine

Arabia

Euxine

Propontis

Hellespont

Mæotis

Taurus

Caucasus

Colchis

Mosynœci

Macrones

Mossynœci

Tibareni

Amazons

Sindi

Sea frequented by the Greeks

Agricultural Tribes

Celtæ

Cynetæ

Celtica

Iberia

Madrid

Lyons

Massilia

Paris

Vienna

Prussia

Hamburgh

Berlin

Warsaw

Grodno

Memel

Dantzic

Country of Amber

London

Portsmouth

Rhine

Alps

Ligures

Etruria

Adriatic Sea

Tyrrhene Sea

Sicily

Greece

Macedonia

Thrace

Troy

Byzantium

Rhodes

Crete

Cyprus

Carthage

Cyrene

Barca

Hesperides

Tripolis

Machlyes

Lotophagi

Nasamones

Augela

Gindanes

Ammon

Memphis

Egypt

Nile R.

Thebes

Oasis

Syene

Ethiopians tributary to Egypt

Great Cataract

Ethiopians above Egypt

Meroe

Sennar

Macrobian Ethiopians, extending to the southern Ocean.

Automoli

Arabian Gulf

Red Sea

Islands in the Erythræan Sea

Harmozia

Pasagardæ

Persepolis

Susa

Babylon

Chaldea

Ninevah

Ecbatana

Rages

Caspian Gates

Hyrcania

Darius

Aparytæ

Oxus R.

Jaxartes R.

Cyropolis

Maracanda

Bactria

Eglos

Pactyes

Paropamisus

Aracbosia

Sarranga

Zarang

Ariaspians

Paricanians

Ethiopians of Asia

Germanians

Indus R.

Delta

Ganges

Padæi

Barvach

Nerbudda R.

Southern Indians, not subject to Persia

Erythræan Sea

Southern Ocean

Desert of Kobi.

Desert unknown, & unexplored

Africa

Atlantic Ocean

Garamantes

Atlantes

Mount Atlas

Meridian of C. S. Vincent

Meridian of Hadcarnassus

Meridian of Arin

Parallel of Haticarnassus

Parallel of 10 degrees North

Sacrum Promontorium

Pillars of Hercules

Promontory of Solocis

Cinyps R.

Tritonis Lake

Lotophagi

Machlyes

Nasamones from Tritonis to Egypt

Ammon

Garamantes

Oasis

Thebes

Nile R.

Syene

Ethiopians tributary to Egypt

Great Cataract

Ethiopians above Egypt

Meroe

Sennar

Kasseena

Western River of Herodotus

Ethiopians Darioer

Head of the White River

Macrobian Ethiopians, extending to the southern Ocean.

Automoli

Lous 27.30 Strabo here 26.gec

It may be conceived that Herodotus extended Africa southward to about 6 or 7 degrees beyond the Equator.

Stades of the mean Scale of Herodotus, 732 to a Degree

5m. 000 5000 10.000 20.000 30.000 10.000 43.200 Strabo 43.200 here

J. Walker sculp.

Published according to Act of Parliament by James Rennell Feb.y 21. 1800.

Jones & Smith sc. Tottenville

AFRICA,

Atlantic Ocean

Great Desert, or Libya Propria

Sahara

Cassiterides

Iberia

Carthage

Mauritania

Numidia

Gætulia

Phœnicia

Judæa

Arabia Petræa

Arabia Deserta

Arabia Felix

Egypt

Nubia

Abyssinia

Ethiopians

Ethiopians of Asia

Indians

Erythræan Sea

Southern Ocean

Guinea

Manding

Dahomey

Loango

Congo

Angola

Benguela

Equator

Tropic of Cancer

Scythia

Sarmatia

Europe

Asia

Greece

Thrace

Macedonia

Cappadocia

Phrygia

Media

Persia

Babylonia

Parthia

Hyrcania

Bactriana

Sogdiana

Scythia beyond Imaus

Caspian Sea

Euxine Sea

Mediterranean Sea

Red Sea

Persian Gulf

Arabian Gulf

Nile

Niger

Senegal R.

Gambia R.

Western River

Zaire R.

Zambeze R.

Indus

Ganges

Caucasus

Taurus

Imaus

Mountains of the Moon

Cape Verde

Cape Bojador

Cape Blanco

Cape Palmas

Cape Lopez

Cape Negro

Cape Corrientes

Cape Guardafui

Cape Delgada

Cape Aromata

Cape Comorin

Cape Rasalgat

Cape Diamond

Cape Lucar

Cape Nun

Cape Finisterre

Cape St Vincent

Cape Spartel

Cape Bona

Cape Blanco

Cape Bon

Cape Matapan

Cape Malea

Cape Colonna

Cape Sigæum

Cape Janizary

Cape Partridge

Cape Delgada

Cape Diamond

Cape Lucar

Cape Aromata

Cape Comorin

Cape Rasalgat

Cape Guardafui

Cape Corrientes

Cape Negro

Cape Lopez

Cape Palmas

Cape Blanco

Cape Bojador

Cape Verde

Cape Finisterre

Cape St Vincent

Cape Spartel

Cape Bona

The WORLD, as known to HERODOTUS, — or — A Spherical Projection; and with its Parts *in their just relative* Positions, *and* Proportions.

Explanation.

The Names mentioned by Herodotus, *have a Continuous Line under them: and the rest of the* Ancient Names, *a broken line.*
The Modern ones are undistinguished. —

Geographic Miles.

Statute Miles to a degree.

Published according to Act of Parliament by James Rennell 1st Feb.y 1800

Walker sculp.

THE

GEOGRAPHY OF HERODOTUS

EXAMINED, &c.

SECTION I.

Preliminary Observations—The Geography of HERODOTUS *not intended for a System, but to explain a History—he regarded the whole habitable Earth, as one Continent — his Character for Veracity, on the Increase—has suffered most, through his Reader's Neglect of distinguishing what the Author* saw, *from what he only* heard—*was ignorant of abstract Science; and did not believe that the Earth was globular:—but is respectable as a Historian, Geographer, and Moralist — a great Traveller — his Geography consists more in relative Positions, than actual Distances, and Dimensions.—Scope of his geographical Knowledge.*

As the writings of Herodotus furnish the earliest record of history, among the heathen authors whose works have reached us, so they also furnish the *earliest known* system of geography, as far as it goes.* It may therefore be worth while to examine this system,

* The late PROFESSOR ROBERTSON, whose memory the Author venerates, as he esteemed him living, has the following remark, at the opening of his last work, the *Disquisition concerning ancient India*. What he there says respecting history, is equally applicable to geography.

"Whoever attempts to trace the operations of men in remote times, and to mark the various steps of their progress in any line of exertion, will soon have the mortifi-

in order to compare it with the actual geography; as well as in certain cases, with the systems of Eratosthenes, Strabo, Ptolemy, and Pliny.* We have said, *as far as it goes*, because the geography of Herodotus is confined more to ASIA and AFRICA, than to EUROPE: and is by no means intended to form an abstract system, but to explain with more effect, the transactions recorded in a history, the theatre of which includes little more in Europe, than the provinces bordering on the *Ægean* sea, the *Propontis*, *Euxine*, and *Palus Mæotis;* and in Africa, the kingdom of *Egypt* and its dependencies; but almost the whole of the known parts of Asia. Limited, however, as the theatre of war in Europe might be, the brilliancy of the transactions on it, surpassed those throughout all the rest of the space.

If it be supposed (as in reason it may) that our Author was master of all the geographical, as well as historical knowledge, of his own times, it may be inferred that the Greeks knew but little concerning the western parts of Europe, besides the mere sea coast; and although our Author seems to entertain no doubt of the exis-

cation to find, that the period of authentic history is extremely limited. It is little more than 3000 years since the books of Moses, the most ancient and only genuine record of what passed in the early ages of the world, were composed. Herodotus, the most ancient heathen historian whose works have reached us, flourished 1000 years later. If we push our inquiries concerning any point beyond the æra where written history commences, we enter upon the region of conjecture, of fable, and of uncertainty. Upon that ground, I will neither venture myself, nor endeavour to conduct my readers."

The materials of our author's geography may be reckoned of a date of 450 to 500 years before our æra. Dr. Usher fixes his birth at 484 before Christ. He also says that he read his books before the council at Athens, in 445; of course, when he was about 39 years of age. This was about 44 years before the expedition of Cyrus, and the retreat of the ten thousand; 111 before Alexander crossed the Hellespont.

* In order to form an idea in detail of the systems of the three first of these great geographers, the reader is referred to the work of M. GOSSELIN, entitled *Geographie des Grecs analysée*, 1780.

tence of a Northern ocean, he confesses his ignorance, whether, or not, *Europe* was bounded on the *north* and *east* by the ocean.

It is proper to remark, that Herodotus considered, and perhaps rightly, the whole of the earth then known, as ONE SINGLE CONTINENT: regarding Europe, Asia, and Africa, as nothing more than *divisions* of that continent. In effect, he does not attach any degree of importance to the question concerning the boundaries of these divisions; and therefore speaks of the line of separation between Europe and Asia, Asia and Africa, in a vague way. "I am far," says he, Melpom. 45, "from satisfied why to *one continent*, three different names, taken from women, have been assigned. To one of these divisions (meaning Asia) some have given as a boundary the Egyptian *Nile* and the Colchian *Phasis*; others, the *Tanais*, the *Cimmerian Bosphorus*, and the *Palus Mæotis*."

It appears that he adopted for the boundary of Asia, the river Phasis, and not the Tanais: and for that of Africa, the Isthmus of Suez, in preference to the Nile; for, speaking of Africa, he says that it is "bounded by the sea, except in that particular part, which is contiguous to Asia." Something, however, like contradiction appears in respect of this subject: for it will be seen hereafter, that he excludes Egypt from *Africa*, as well as from *Asia*; which appears very extraordinary, and can only be accounted for, on the ground that he does not, like others, distribute the habitable world into *continents*, but into *regions*: and that Egypt might be considered as a region of itself.

The shore of the Baltic sea, from whence *amber* was brought (Prussia), seems to have been the extent of his knowledge, that way. The British Islands he knew in *part*, as being the place from whence the Phœnicians, and from them the Greeks, had their *tin*; an indispensable article, it would appear, as without it they could not harden their copper, so as to make it answer the purposes of iron, in weapons. He accordingly speaks of the *Cassiterides*, as the *islands* from whence the tin was said to be brought. It has

been very much the custom to refer the Cassiterides to the Scilly Islands alone; but the idea ought to be extended to Cornwall at least: and, it is possible that very great changes have taken place in the state of Scilly and Cornwall since the date of that traffic.*

The fact of the insular nature of Britain must of course have been ascertained by the Phœnicians, who sailed between it and the continent, in their way to the amber country: but whether they knew much concerning the *extent* of Britain northward, or of the *existence* of Ireland, is a fact that appears not to have reached us. It is however, very probable, that in the *idea* of Herodotus, the Cassiterides were a cluster of small islands, insignificant in any other point of view, than as containing tin mines.

Of Asia, by *much the greater part* was unknown; and yet, notwithstanding this deficiency, the proportion of space on the globe, known to Ptolemy, about 600 years after Herodotus, did not *greatly* exceed that, which was known, in a general way, to Herodotus himself; although during that interval all the knowledge acquired by the Macedonian and Roman expeditions, had been brought forward to public view. This is easily explained. The track of Alexander was confined generally within the limits already known to our Author; so that it brought no accession of *space*. And although the discoveries and inquiries made by the Romans, had added to the space known to Herodotus, the north and north-eastern parts of Europe, together with the British Islands at large; as well as *Serica*, the borders of China, the Peninsula *beyond* the Ganges, the *eastern* part of *India*, and *Taprobana*; yet the ground lost by geographers in Africa, nearly, if not entirely, overbalanced, all the latter acquisitions. So that in Africa, Herodotus knew *more* than Ptolemy, *vastly more* than *Strabo*. For, it is certain, that

* There are some curious particulars in Diodorus Siculus respecting an island near the British coast, to which carriages laden with tin, came at low water, in order to its being embarked on vessels for the continent. See the course of this merchandize in lib. v. c. 2.

Herodotus had a very positive, and in some degree, circumstantial, knowledge, of the course of the river *Niger;* now, by the discoveries recently made by Mr. Park, shewn to be the same with the *Joliba*, or great inland river of Africa: so that we must extend his knowledge of the inland part of Africa, to the same point, known to Ptolemy, and to the Romans. Again, *Ethiopia*, and the *general* course of the Nile, to a certain point, were alike known to Herodotus and to Ptolemy, by report; although the place of the distant fountains of the Nile was involved in obscurity. But the striking difference in the quantity of space known, in Africa, to these authors, respectively, arose from Herodotus's knowing that Africa extended a vast way to the south of the Nile, and Niger, and that it had been sailed round; whilst Ptolemy was either ignorant of the circumstance, or disbelieved it.

In point of discrimination also, as well as of extent, geography, in some particulars, lost ground between the times of Herodotus and Strabo: for Herodotus knew that the Caspian sea was a lake, and describes it as such; but this was afterwards either forgotten, or the opinion was over-ruled: and from the date of Alexander's expedition, to Ptolemy, the Caspian passed for a *gulf* of the Northern ocean; to which it was supposed to be joined, by an exceeding *long* and *narrow* strait. So that an actual visit to the spot, by Alexander and his followers, had the singular effect of *falsifying*, instead of *improving*, the systems of geography.

It is a common and just remark, that the authority of our Author's work has been rising in the opinion of the world, in latter times; which may be referred to the number of discoveries that have been lately made, and which are continually making, in the countries which he describes. It was ignorance and inattention therefore, that determined the opinions of his judges; a charge in which several of the ancients are implicated as well as the moderns. The same want of attention has confounded together, the descriptions

of what he *saw*, with what he had only *heard;* and which he might think himself bound to relate. Mr. Wood speaks much to the purpose respecting this matter. He says, " were I to give my opinion of him, having followed him through most of the countries which he visited, I would say, that he is a writer of VERACITY in his description of what he SAW, but of CREDULITY in his relations of what he had HEARD." We may add, that superstition made him credulous in *believing* many improbable stories; but love of truth prevented him from *asserting* falsehoods. The instances of gross superstition manifested by him are too numerous to be recounted; but superstition was also common to many other great characters.

But his ignorance in certain points is infinitely more unpleasing than his superstition: for it may be observed, that however distinguished our Author may have been as an HISTORIAN, GEOGRAPHER, and MORALIST, yet that as a man of science, and a natural philosopher, he ranks very low indeed; as is too conspicuous in several parts of his work. Such is his ignorance of the existence of *snow* in elevated situations in warm climates; Euterpe, 22; his belief that the sun was vertical in India, before mid-day; Thalia, 104; and his very unphilosophical way of accounting for the swelling of the Nile; in which he talks of the sun's being driven out of his course, &c. Euterpe, 24.

It appears also, that he did not believe that the earth was of a globular form; which alone was sufficient to lead him into great errors. Says he, Melpom. 36. " I cannot but think it exceedingly ridiculous to hear some men talk of the circumference of the earth, pretending, without the smallest reason or probability, that the ocean encompasses the earth; that the earth is *round*, as if mechanically formed so; and that Asia is equal to Europe." Again, Melpom. 42, although he believed that the ships of *Nechao* had circumnavigated Africa, yet it appeared incredible to him, that during the voyage they should have had the sun on their *right hand*. All

which arose from his ignorance in matters of science. But wheresoever he speaks of history, or of morals, he fails not to give information and satisfaction: these being his proper walks.

We could with pleasure dwell on this subject, if the scope of our work permitted it; for the justice and propriety of his remarks on matters of common life, prove his observation to be very acute, and his judgment no less clear. But we cannot resist the temptation of inserting the following remarks, at this time, as they shew the strong contrast between a virtuous republican of Greece, and a modern republican, formed on a Gallic model. And yet no one can doubt that the permanent comfort and happiness of the human species, were to the full, as much the object of the former, as of the latter.

Speaking of the atrocious conduct of Cambyses in Egypt, he says, "For my own part, I am satisfied that Cambyses was deprived of his reason; he would not otherwise have disturbed the *sanctity* of *temples*, or of *established customs*. Whoever had the opportunity of choosing for their observance, from all the nations of the world, such laws and customs as to them seemed best, would, I am of opinion, after the most careful examination, adhere to their own. Each nation believes that their own laws are by far the most excellent; no one therefore, but a madman, would treat such prejudices with contempt." Thalia, 38.

These are the sentiments of a republican, who, in order to enjoy a greater degree of civil liberty, quitted his native city Halicarnassus, when its system of laws was violated by the tyrant Lygdamis.*

* He has also the following remark, in his description of Egypt.

"It seems to be an established prejudice, even amongst nations *the least refined*, to consider mechanics and their descendants in the lowest rank of citizens; and to esteem those as the most noble, who were of no profession; annexing the highest degrees of honour to the exercise of arms. This idea prevails *throughout Greece*, but more particularly at Lacedæmon; the Corinthians, however, do not hold mechanics in disesteem." Euterpe, 167.

The most extraordinary of his errors, as being so directly contrary to what appears to the most common observer, is the story of the *vertical* sun in the *morning:* but it is possible that the story may be accounted for, satisfactorily; though not altogether to the credit of our Author's knowledge. He says,

" In distinction from all other nations, the heat with these people (the Indians) is greatest, not at *mid-day*, but in the *morning*. They have a *vertical* sun, *when with us*, people *withdraw* from the *Forum;* during which period the warmth is more excessive than the mid-day sun in Greece." Thalia, 104.

The time when the *Forum* was *full*, is fixed by the best authorities, at nine in the morning; and although we have no idea of the hour when the people retired from it, yet, the context considered, it must be supposed to be at a considerable distance short of noon; it being in some degree *contrasted* with it, by our Author.

Is not this very extraordinary misapprehension, occasioned by the neglect of reducing the *time* to the *meridian* of the place? For, by the difference of longitude between Greece (or perhaps Ionia might be meant) and hither India, it would certainly happen, that when it was nine o'clock in Greece, it would be about noon on the banks of the Indus.

If Herodotus could have been made to believe that the earth was *round*, it is probable that he would not have fallen into this error, occasioned perhaps, by a story, literally true, but maliciously told him by one who believed that the earth was globular, but could not persuade Herodotus that it was so. And we have already remarked that he says, " I cannot but think it exceedingly ridiculous to hear some men talk," &c.

His geographical notices are scattered throughout his work; and would, according to Mr. Beloe's observation, fill a volume. They are ever placed where they may best serve to elucidate the parts of the history, to which they respectively belong; and not with a view to an abstract system of geography. It is not there-

fore to be inferred that he was ignorant of any particular subject of geography, because he omits to descant on it; history, and not geography, being his principal object. We have endeavoured to collect all the scattered notices, into one point of view, in order to make them bear on, and illustrate each other, in a kind of system; it being only by a reference to these notices collectively, that any kind of system can be made out. As a geographer, he had an advantage over the generality of his brethren, in that he had *seen* the countries which he *most* particularly describes; that is, *Egypt, Scythia, Thrace, Persia, Assyria, Lydia, Palestine, Syria*, &c. That he visited these, we learn from his own authority, in different parts of his work; as in Euterpe *throughout*, but particularly in chapters 3, 29, 44, 104, 106, and 167: Clio, 194; and Melpom. 86.

It has appeared, that Herodotus doubts whether the ocean completely encompasses the earth; but he admits that it surrounds it on *three* sides. For, speaking of the Caspian sea, as being unconnected with all others, (in effect a lake) he says, that the *Erythrean* sea, and the one *frequented* by the *Greeks*, as well as the *Atlantic*, are parts of the *same ocean*; Clio, 203: and as he also says, Melpom. 13, 36, that the Hyperboreans, whom he places to the northward of the Scythians and Issedones, EXTENDED TO THE SEA; this is saying, in other words, that the sea bordered on, and confined *Europe and Asia* on the *north*. We have here then, in express terms, a *north*, a *south*, and a *west* sea; but no *eastern* sea; so that he considered the eastern part of the world, as composed of *land* only: for he says, that "the Indians are the *last* nation towards the *east*; and that beyond them is a *vast desert*, unknown and unexplored." Melpom. 40. Again he says, Melpom. 8, "They affirm, without proving it, that the *ocean*, commencing at the *east*, flows round the *earth*."

The geography of Herodotus consists almost entirely of a series of relative positions of countries, to each other; but without distances or dimensions, except in certain instances. Hence, we can

only refer to those ideas of *juxtaposition*, the measures given by succeeding geographers; particularly Eratosthenes and Strabo, whose ideas of relative position seem to have differed but little from those of our Author: for we clearly discover his principal errors perpetuated in the systems of those geographers. Wherefore, reasoning from analogy, it may be inferred, that the dimensions of countries, and regions, given generally by *them*, were those extant in the days of Herodotus; save only such as were corrected by the materials furnished by the expedition of Alexander; which expedition, besides the *eclat* of the military history belonging to it, furnished in Greece and Egypt, an *epoch* of geographical improvement and correction, which may not unaptly be compared with that of the discoveries of the Portugueze, along the coasts of Africa and India; or of that of the present time, in which geography has been improved in every quarter of the globe.

But, in effect, the expeditions of Alexander and of Xenophon, how fruitful soever in geographical notices, in *detail*, did not afford materials for correcting the former errors of the Greeks, respecting some of the most important relative positions, in the *gross*: as for instance, the Caspian sea was supposed by Herodotus to be *opposite* to the coast of the Persian *Icthyophagi*; and the sea of Colchis to that of Persia: and these errors existed not only in the days of Herodotus, but continued to those of Eratosthenes and Strabo, also. The cause of their perpetuation will be shewn in the sequel.

His ideas of the proportional extent of the known parts of *Europe*, *Asia*, and *Africa*, were very defective: for he reckoned the two latter much too small, in respect of Europe. But it is again to be remarked, that succeeding geographers, down to Pliny inclusive, ran into the same kind of error, and even to a greater degree: for instance, the *Europe* of Eratosthenes and Strabo, exceeded in their ideas, the parts of *Asia* known to *Herodotus*: and those of Africa, in a yet greater degree. Pliny erred yet more in his proportions. Ptolemy was the first who approached the truth, in giving the

relative proportions of the known regions of the globe, although the *absolute* measures in longitude given by him, were in excess to a degree perfectly unaccountable: whilst the errors of his predecessors, although in excess likewise, appear to be so, only in the proportion which the distance by the *road*, or by the coasting voyage of a ship, exceeds that by the *direct* line. And this seems indeed, to point out the source of many of their errors.

Another error of Herodotus was, his taking the *Isthmus* of Asia Minor, much too narrow. A like error, but in a greater degree, appears to have arisen in his estimation of the *breadth* of Arabia; which is inferable from his statements of the respective positions of Egypt and Cilicia; Colchis, and the Persian gulf; an error also perpetuated by succeeding geographers: for Pliny, lib. vi. c. 28, compares the Peninsula of Arabia, to that of Italy, not only in *form*, and *position*, but in point of *size* also! Thus the most *prominent features* of this geography, as far as we can collect from the records of the times, did not *greatly* vary, from the days of Herodotus, to those of Pliny.

In so ancient a book, one must not be surprised at finding corruptions in the numerals, or even in the proper names. With respect to the first, we sometimes find them false, in places where a knowledge of the ground, affords the means of detecting them: and hence, the same may be inferred in other places, where, through want of the requisite information, they escape detection. As to names, it appears that they are more correct, than one had a right to expect. It is however, certain, that in the account of the Persian Satrapies, certain names occur, that cannot be referred to any particular position. Some of these may have been lost, altogether, in subsequent times; as there is an instance in that of the *Caspian's* country, whose name was grown obsolete before the time of Strabo. Others may have been corrupted; and others again were probably no more than names of the principal cities of the several countries, applied to the countries themselves; a custom very prevalent in the East, to the great confusion of history, and of geography. But, on

the whole, during the interval of five or six centuries, between Herodotus and Ptolemy, the names do not appear to have undergone much change.

The scope of the geographical knowledge of our Author may be briefly comprized in the following description:

Of EUROPE and ASIA, collectively, the northern boundary was the ocean, whose shore was supposed to continue from the south of the Baltic, eastward; and perhaps touching the parallel of 60°. On the north-east, the mountains of *Altai*, at the head of the Irtish river, and the country of the Oigurs or Yugures, which is far advanced within Great Tartary, seem to have terminated his knowledge; and on the east, the great sandy deserts of Tartary, and the country of India; but of this last, his ideas appear to have been the most indistinct possible, both in respect of its extent, and of its history. The Peninsula of India is darkly pointed out by the tract which extends very far to the south of Persia, and whose inhabitants are black; but it is given under too confined limits.

The eastern extremity of Herodotus's world, was a vast Desert, *unknown* and *unexplored*, and consequently in extent, *indefinite*. The remainder he *knew* to be surrounded by the ocean; including AFRICA, which he confined within limits which were very much narrower than the truth, both in respect of its length and breadth; although much wider than appear in the systems of other geographers.

In the discussion of this subject, we shall treat the three divisions of EUROPE, ASIA, and AFRICA, according to our Author's distribution of their space, in the order here mentioned: adding thereto a particular description of the 20 Satrapies of Persia, according to the arrangement of DARIUS HYSTASPES. These last, comprized a great proportion of the known part of the world, at that day. But before we enter finally on the discussion of the geography, it may be proper to ascertain what portion of distance was intended by the *itinerary* stade of the Greeks, since their geography appears to have been regulated by this scale.

SECTION II.

CONCERNING THE ITINERARY STADE OF THE GREEKS, FROM THE DATE OF HERODOTUS.

The Grecian Stade often confounded with the Roman—appears to have varied, only with the Judgment of the Individuals who computed the Distances—Examples cited from Herodotus, Pausanias, Xenophon, Eratosthenes, Strabo, Polybius, Pliny, and Arrian—receives Confirmation from a Comparison with the mean Marches of Armies—Paces, the elementary Part of Itinerary Measures; and the Stade probably formed originally, of a Hundred of these.

THOSE who have entered into the question concerning the length of the Grecian Stade, have expressed the difficulties they have experienced in attempting to reconcile the different standards that present themselves, under one and the same denomination of STADE. In common acceptation we find a stade commensurate to a furlong; which idea is applied to all the stades of antiquity, whether Grecian or Roman, without considering whether the same standard, as well as denomination, was indifferently used by both nations.

This error may probably be traced to the Roman authors, who, in all cases where they have made use of Grecian materials in geography, have reckoned 8 stades to a Roman mile; an error, however, natural enough, as it appears that they had a stade of their own, of that standard, and might suppose that the Grecian itinerary stade was of the same kind: for it has not been found an easy task to appreciate the standards of foreign itinerary measures at any rate; and the authors in question, who wrote from books, and not from actual observation of the standards themselves, were the least likely of any to appreciate them rightly.

It is foreign to our purpose to enter into an inquiry concerning

any other stade, than the one applied to *itinerary* purposes by the Greeks: and we conceive that this measure, did not, in effect, vary in its *standard*, but that the different results arising from the comparison of the numbers of stades, with the ground on which they were computed, are to be ascribed to the difference of judgment amongst the individuals who made the computations; (we say *computations*, because it may be supposed that the distances were, in very few instances, measured:) for the *greatest* difference that arises amongst the several authors, taking the mean of the examples furnished by each respectively, is about a *fourteenth* part, and that in one instance alone; but the more *common* difference is only a *twenty-fourth* part.

Some have endeavoured to account for these differences, from the different ages in which the measures were employed: but this does not hold, for some of the measures reported by Herodotus, agree with those reported by Strabo, several centuries afterwards; whilst those of the same age frequently differ.* Many of the

* It must however be admitted, that in the Periplus of Scylax, which was written before the time of our Author, the numbers appear greater, than in later authors; but whether this arose from ignorance of the true distances, or from an alteration of standard, may perhaps be disputed. We should rather believe the former cause, otherwise an alteration of $\frac{1}{5}$ must have taken place, between the time of Scylax, and that of Strabo. For instance, the Island of *Crete*, is said by Scylax,† to be 2500 stades in length; but by Sosicrates, 2300;‡ and by Strabo, 2000.§ It is somewhat less than 150 geographical miles, (or those of 60 to a degree) or about 1800 of Strabo's scale, (700 to a degree.) Possibly the indentations of the coast, may make up the 2000. Sicily is also said by Scylax to be 2500 stadia on *each* side.‖ Its length is indeed only about 10 miles greater than Crete, which appears at first sight to countenance the idea of a shorter stade; but when it is recollected that the east side of Sicily is $\frac{1}{5}$ shorter than the other two, although the three sides are said by Scylax to be equal; it must be allowed that no dependance can be placed on the statement of numbers. At all events, it is to be recollected that our inquiry has no reference to any date anterior to Herodotus.

† Scylax, in Hudson's Min. Geog. Vol. i. page 18, and 56.
‡ Strabo, p. 474. § Ib. p. 106. ‖ Scylax, p. 4.

numbers are, indeed, out of reason; and others absurd: but, in such cases, one ought rather to suppose a corruption of the text, than look for a diversity of standards, in the same denomination of itinerary measure; and in so small a state as Greece.

It is certain that Herodotus *describes* the stade as a measure of 600 Grecian feet,* which require about 600 to make a degree; but this appears to be the Olympic stade, which is valued by M. D'Anville at $94\frac{1}{2}$ toises.† There is, however, no testimony concerning the application of this stade to itinerary purposes: on the contrary, every portion of distance, as well throughout Herodotus's history, as of the writings of other Greeks, appears, on a reference to the ground itself, to be measured by a stade of a much shorter standard; most of them rising *above* that of Xenophon, which is of 750 to a degree, but falling *below* that of Strabo, which is of 700. But although the Olympic stade was not used by Herodotus, it appears very clearly that he made use of *more* than *one* standard of itinerary stade; for the result of his numbers gives a much longer standard in *Greece*, *Asia Minor*, and *Persia*, than in *Egypt* and the *Euxine sea*. Whether this difference was the effect of design, or of misconception, cannot with certainty be known; but it was probably from the latter; as his silence might lead us to suppose that he had no more than one kind of stade in contemplation. It is important to observe, that the former agrees nearest with those of Xenophon, Eratosthenes, and Strabo, and in particular with that resulting from the calculation on the *mean* marches of armies; than which, perhaps, nothing can be more to the purpose, in the matter of approximation; since the *mean motion* of armies forms a kind of *natural* and *universal scale*, in all places, and at all times; of which more in the sequel.

* Dr. Arbuthnot reckons the Grecian foot at 12,0875 of our inches.

† Mes. Itin. page 70. In Euterpe, c. 149, Herodotus says that a Stade is composed of 100 *orgyia*, each of 6 feet. Again, in Melpomene, c. 41, 100,000 *orgyia* are said to be equal to 1000 stades.

One must surely conclude that Herodotus was well informed respecting the itinerary measures of his country; and therefore an example of it, given on one of the most celebrated communications in Greece, namely, that between Athens and Pisa (Olympia) ought, if the numbers are not corrupted, to be taken as decisive. This gives a ratio of 755 stades to a degree.* But, on the other hand, *Pausanias*,† gives the measure of the road between *Sparta* and *Pisa*, on which there arises a ratio of 707. It will be found in the sequel, that the former result agrees very nearly with the stade of Xenophon, the latter with that of Strabo.

In a second example furnished by Herodotus, and that on an exceeding long line of distance, being the whole extent between *Sardis* and *Susa*, 13,500 stadia, the result, when due allowances are made for the inflections of the road (as in other cases), is 694 and a fraction.‡ But this may be liable to exception, as it appears

* Herodotus says, Euterpe, c. 7, "The distance betwixt *Heliopolis* (in Egypt) and the sea, is nearly the same, as from the altar of the 12 Deities, at Athens, to the shrine of Jupiter Olympus at Pisa. The distance from Pisa to Athens wants precisely 15 stadia of 1500, which is the exact number of stadia, between Heliopolis and the sea."

The direct distance on D'Anville's Map of Greece is 105 G. miles. If $\frac{1}{8}$ be added for winding, the road distance will be 118, which gives 755 to a degree.

N. B. It is worthy of remark, that notwithstanding this positive statement, and comparison, the distance betwixt Heliopolis and the sea is no more than 80 G. miles direct; as will appear in the sequel.

† D'Anville Mes. Itin. p. 76, quotes Pausanias, *Eliac. II.* who says, that the distance betwixt a certain column in Olympia, and another in Sparta, is 660 stades. On the map, this distance is 50 G. miles, or 56 by the road, giving a rate of 707 to a degree. The Theodosian table has 61 MP. only; equal to about 49 G. miles by the road.

‡ This occurs in Terpsichore, c. 52. It is said that the road between Sardis and Susa is of the extent of 450 parasangas, each of 30 stades: that is, an aggregate of 13,500 stades. The distance on the map, taken through the points of Issus and Mosul, to *Sus*, (supposed to be Susa) is 1120 G. miles, from which results a proportion of $723\frac{1}{3}$ to a degree. But as this is calculated on *exceeding long* lines of distance, it requires that some addition should yet be made to the 1120 miles, in order to

to be founded on the *relative proportions* of the Persian parasanga and the Grecian stade; the former of which is valued by Herodotus, Erato, c. 42, as well as by Xenophon, Anabasis, lib. 2, at 30 stades. It may justly be doubted whether any parasanga was of so short a standard as the one reported by Xenophon; and it is certain that the modern *farsang*, which represents it, is universally of a longer standard, and bears a much nearer proportion to the parasanga of Herodotus, than to that of Xenophon, if compared with the ground itself.* At the same time, Xenophon travelled over the ground which he describes; and Herodotus, no doubt, took his account from hearsay: and from a view of the whole matter, one would certainly be led to conclude that Herodotus deduced his number of stades from the number of parasangas reported to him; and that the Grecian general (Clearchus) kept the account of his marches in stades, which Xenophon turned into parasangas, at the rate of 30 to each. It may be remarked on this occasion, that comparisons between Itinerary measures of different countries, have commonly been made inaccurately, even by persons, arrive at the measure of the road distance; although that road may be supposed to have been made straighter than ordinary ones in that country; since it not only formed the grand communication between *Asia Minor*, *Cilicia*, and *Persia*, but was styled the *Royal Road*, and was divided into *stathmi* of about the length of the ordinary march of an army, terminated by inns or caravanserais of great magnificence, for the use of the king. Probably $\frac{1}{25}$ may be required, in addition to the inflections already allowed, on occasion of its passing through Issus and Mosul; and then the proportion will be 694 or 695 to a degree; falling short of that between Athens and Pisa, by about $\frac{1}{17}$ part.

* It appears that Taverniere reckoned 282 farsangs between Kandahar and Ispahan, on a line of 683 G. miles; giving a result of - 2,339
Forster on 229 farsangs to 571 miles, in Korasan - 2,496
Chardin and Olearius, on 82 farsangs to 252 miles between Casbin and Ispahan - - - - - 3,055
} to each farsang in *direct* distance.

Mean 2,630 on 593 farsangs.
Herodotus - - - - - 2,489 on 450.
But Xenophon only - - - - 2,143.

from whom accuracy might have been expected. Fractions occur, and these are neglected; or an even number of elementary parts is taken, when an odd number approaches nearer to the truth. Thus the Indian coss is compared by Thevenot to half a French league, although it be little less than two of our miles. We could adduce many other instances. It appears that no less than $33\frac{1}{2}$ stades of those of 718 to a degree (which is the result of our inquiries into the length of the *mean* stade) are required to make up a parasanga of the scale arising on the 450 stated by Herodotus between Sardis and Susa, when reduced to road distance: for these being in direct distance nearly $2\frac{1}{2}$ G. miles each,* cannot well be less than 2,8 by the road, when an eighth is allowed for inflections. And it is highly probable that instead of 13,500 stades between Sardis and Susa, it should have been 15,000, or thereabouts: that is, 450 multiplied by $33\frac{1}{2}$ instead of 30.

In Egypt, and in the Euxine sea, the stade of Herodotus falls so low, that it is evidently meant for something different from the Greek stade: since no less than 1001 to a degree, are required in the first instance; 1032 in the latter.† To us it appears that in respect of Egypt, the cause arises from his having taken the *schœne* one third *above* its real standard; that is, at 60 stades, instead of 40, as it really appears to be. For, in describing the dimensions of Egypt, he gives them in *schœnes*, and then reduces them to stades, at the rate of 60, to a schœne, Euterpe 6, and 9. We have

* Critically 2,489.

† Examples in Egypt.

1. Between Heliopolis and the sea, 80 G. miles direct, or about 90 by the road, is given at 1500 stadia, Euterpe 7. Result - - - 1000

2. Coast of Egypt, 3600 stadia, Euterpe 6, distance 195 G. miles. Result 1108

3. Heliopolis to Thebes, 4860 stadia, Eut. 9, distance by the road 312 - 935

General mean on 9960 stades to 597 G. miles - 1001

Example in the Euxine sea.

From the *entrance* to the river *Phasis*, 11,100 stades, distance by coasting navigation 645 G. miles, Melpom. c. 85. Result - - 1032.

given a number of examples in the notes: and there appears not the shadow of a doubt that a schœne consisted of 40 stades, or about 4 Roman miles.*

There is another circumstance in proof of the like error, in his allowing more than 6000 stades between *Thebes* and the *sea*, whilst Eratosthenes allowed 5000 only for the difference of parallels, between *Syene* and *Alexandria*. And again, in assigning 2400 stades to the breadth of the Delta, (40 schœnes) whilst Eratosthenes, Pliny, and Strabo, severally allow no more than 1300, 1360, and 1500.†

* In the Antonine Itin. p. 152, a station named *Pentaschœnon*, occurs between Mount *Casius* and *Pelusium*, and is of 20 MP. agreeing to about 40 stades to a schœne. In Isidore of Charax, Hudson's Minor Geog. Vol. ii. the schœne turns out equal to about 4 MP. also. Pliny says, lib. 12, c. 14, that Eratosthenes reckons it 40 stadia, equal to 5 MP. but that some allow 32 only. Doubtless the authority of Eratosthenes may be followed.

There is also an example in Herodotus himself, between Heliopolis and the sea. The distance he says, Euterpe 7, is 1500 stadia (probably deduced from 25 schœnes of 60 stades each.) The distance is 80 G. miles direct, equal to 100 Roman miles: so that the schœnes should be 4 Roman miles each, or about 40 stades, instead of 60; and the whole distance 1000 stades of those of 750 to a degree. Add for the probable windings of the road, and we have 1125 stades of the same standard. Now, according to the proportion of the road from *Athens* to *Pisa*, the 80 G. miles give about 1130 stades of 755 to a degree. Is not this conclusive, respecting his error of reckoning 60 stades instead of 40, to a schœne: and does not this account for the scale of his stade in Egypt?

† In Euterpe, c. 9, Herodotus reckons about 9 days for the voyage from *Heliopolis* to Thebes, which gives 540 stades, or 50¼ of our miles per day, had the stades been of the Grecian standard. This rate is, however, out of all rule: and it is probable that 19 days, or thereabouts, were originally written. Norden was about 19 days, in ascending the Nile from *Cairo* to *Thebes*, in December, a very favourable season, which may reduce the rate to 22 or 24 British miles by the course of the river; and agrees to the ordinary rate of progress in other great rivers. But it is to be understood, that the voyage was made in a boat of a considerable size.

It is certain that the use of a similar standard in the Euxine sea, cannot be accounted for, in the same manner, unless it be supposed that Herodotus visited that sea in an Egyptian ship, in which the reckoning would naturally have been kept in schœnes. But perhaps there may be more colour for this supposition, than appears at first sight, for as Herodotus says, Melpom. 86, speaking of his own voyage in the Euxine, that in a long day, a ship will sail through the space of 700 stadia; which, at the rate of 718 to a degree (the result of our inquiries) are equal to $58\frac{1}{2}$ miles; whilst his own statements, in the other parts of his history, as well as the uniform testimony of the ancients, limit the mean rate of sailing of their ships, to about 37 G. miles per day (say 450 stadia);* it is clear that a measure very different from the ordinary stade must be meant, when 700 are given: and as the mean rate of sailing, bears nearly the same proportion to the rate described in the Euxine, as the true measure of the schœne, to that calculated on by Herodotus, it is very probable that the schœne furnished the ground of calculation *here*, as well as in Egypt. Certain it is, that the measure of the stade, in Egypt and the Euxine, differs from his statement of it elsewhere; as well as from the statements of others; and that in so great a degree, that if the stade is really meant in all places, we shall be obliged to charge Herodotus with inconsistency; a charge that can by no means be ordinarily imputed to him.

In our estimation of the stade of Herodotus, we shall therefore lay out of the question what regards Egypt and the Euxine, as being apparently involved in error, and confine the question to the examples given in every other part; that is, in Greece; on the road from Sardis to Susa; on the interval between the mouth of the Danube and that of the Borysthenes; and finally to the number of

* See article "*Sailing of ancient ships*," in the Index.

stades said to compose an ordinary march of an army. These, then, give a ratio of 732, to a degree of a great circle.*

The stade resulting from the marches of Xenophon, furnishes much satisfaction in respect of itself, as it may be checked, not only by the scale of the mean march, but also by the Jerusalem Itinerary, over part of the ground; and no less by the computations of the same distance by modern travellers. The ordinary march of Xenophon, was 150 stades, (the same length as is allowed by Herodotus,) and which, according to the practice of the Greeks, (whether right or wrong,) they both supposed to be equal to 5 Persian parasangas.

The Jerusalem Itinerary has 45 MP. between *Tarsus* and *Mansista*, on the river *Pyramus* † (the *Mopsuestia* of more ancient times, and the *Messis* of our own.) Within this space, Xenophon, with the younger Cyrus, made 3 marches, which he reckons equal to 15 parasangas, and these equal to 450 stades.‡ So that here are just 150 stades in each march, and these equal to 15 Roman miles; consequently there are 10 stades to each mile, or 750 to a degree; since M. D'Anville has shewn that 75 such miles are equivalent to that portion of the meridian.§.

Again, between *Dana* (which is no doubt the *Tyana* of the Itinerary) and *Tarsus*, Xenophon reckons 25 parasangas,‖ and the Itinerary 75 MP.;** consequently, 750 stades to a degree.

* Summary of the examples given by Herodotus, in Greece, Asia, &c.

1. Between Athens and Pisa - - - - -	755
2. ——— Sardis and Susa - - - - -	695
3. ——— Danube and Borysthenes - - - -	727
4. The scale of the ordinary march, which is about 14 B. miles, or 15 MP. whilst 150 stadia are stated to be an ordinary march, by Herodotus, Terpsichore, ch. 53, and 54. (Xenophon has the same) - - -	750
Mean -	732

† Itinerary, page 580. ‡ Anabasis, lib. 1. § Mes. Itin. p. 44, *et seq.*

‖ Anab. lib. 1. ** Itinerary, p. 577, *et seq.*

The result of our inquiries into the length of the *mean* marches of armies, gives rather above 14 B. miles,* which may be reckoned 15 Roman miles. So that the ordinary march of Xenophon, agrees with the calculation of the ordinary march, at large. And having thus ascertained the distance marched through in a day, by Xenophon, we of course ascertain the length of his stade, which was the 150th part of 15 MP. or the 750th part of a degree. It has appeared that the result of the calculation, on the road from *Athens* to *Pisa*, comes very near to the present one; being 755.

It is proper to add, that modern travellers calculate at a medium the distance between Tarsus and the river Pyramus, at $43\frac{1}{2}$ B. miles; whilst about $41\frac{3}{4}$ are equivalent to the 45 MP. of the Itinerary. And also that, by the assumption of one point for the *Syrian gates*, and another for *Issus*, which is doubtless the *Öseler* (to be pronounced *Usseler*) of Niebuhr, the comparison of Xenophon's route with the Itineraries,† and with the computations of the distance, may be extended in the gross, 20 parasangas beyond the Pyramus; making in all, 105 MP.; with the same success as in the former interval. And we may add, that in every part of Asia, where we can trace the footsteps of this IMMORTAL General, we find the same proportional scale of 750 to a degree.

The stade of Aristotle, valued at 1111 to a degree, we regard purely as an imaginary measure, and conceive that it was founded

* This march, reduced to horizontal, or direct, distance, for geographical purposes, is about 10,6 G. miles. The stathmus mentioned by Herodotus (see above, p. 17, notes) between Sardis and Susa, comes out 10,5; no doubt intended for an ordinary march.

The mean march of Xenophon from Natolia to Trebizonde is about 15 B. miles, but then the marches during his retreat were often much longer than on occasions of ordinary warfare. Five parasangas, or 15 MP. is his ordinary march; and which occurs in almost every page. The mean of 95 *measured* marches of *Indian* armies (no Europeans with them) was 14,6: or say $14\frac{1}{2}$ B. miles.

† Meaning both the *Antonine* and *Jerusalem* Itineraries. See in the first, page 145, *et seq.*; the latter, p. 580, 581.

on certain supposed dimensions of the globe; which dimensions, having been found erroneous, in excess, the moderns have diminished the *standard* of the stade, instead of lessening the *number* of stades in a degree. We are therefore surprised to find it employed, in the application to actual geography, in very late times.

Eratosthenes and Strabo allow 700 stades to a degree, in their calculations of distance; but it appears that, (in Asia particularly) they often substituted the *road distance*, perhaps the marches of Alexander, for *direct* distance. This appears clearly by comparing the actual distances, as they appear in modern geography, with the numbers of stades given; for, in most cases, across the continent of Asia, the deficiency of distance amounts to the difference between the measure of the *direct* line, between any two places, and that of the *road* distance, between them. Nothing can speak more strongly to this point, than the circumstance of Strabo's giving the number of stades in Nearchus's coasting navigation, for the *length* of the coasts of Persia and Caramania.

Eratosthenes, as a Grecian, should have known the true value of a stade; a Grecian Itinerary measure: and, as a geographer, he ought to have known that it was necessary to make a distinction between *road* distance and *horizontal* distance. The same may be said of Strabo; but as we find no indication of any such distinction having been made; but, on the contrary, that the road distance agrees nearest to the number of stades (of the scale of 700 to a degree) used to express the extent of the countries, through which the roads lead, we may suspect that neither of them had ever been in the habit of constructing tabular geography; without which, no accurate idea of extent and juxtaposition can well be conceived, or expressed.

One might conclude, that, as 700 was the number fixed on, originally, by Eratosthenes, as the measure of a degree of a great circle, that this was the established standard at that day, in Greece, or Macedonia: for this principle was actually adopted, in the

determination of that portion of the meridian, between the parallels of *Syene* and *Rhodes*, about $12\frac{1}{3}$ degrees; in which the 8750 stades of Eratosthenes, and the 8600 of Strabo, afford a mean *ratio* of $703\frac{1}{4}$ to a degree of the meridian.* But nothing is more certain than that Strabo, if his text be not corrupted in this place, supposed that a Roman mile contained no more than 8, or at the utmost $8\frac{1}{3}$ stadia; for in page 322, he reduces a large number of MP. into stades; first at the rate of 8, seemingly on his own judgment; and afterwards says, that if the opinion of Polybius is to be followed, $\frac{1}{3}$ of a stade must be added, as he has allowed $8\frac{1}{3}$ to a MP. It is certain that $8\frac{1}{3}$ of the Olympic stades of 600 feet are equal to 5000 feet, or 1000 paces, the Roman mile: but it is as certain, that, the standard of Strabo, which, as we have seen, is invariably of 700 to a degree, required $9\frac{1}{3}$ to make a Roman mile. How then can we reconcile such a difference, in a matter so plain and simple? Is it not more probable that in the copies of Strabo, 8 has been substituted for 9, than that he should himself have been guilty of so palpable an error? But it will even appear, that, whatsoever the *opinion* of Polybius may have been (and, by the bye, the passage referred to, by Strabo, must have occurred in a part of the works of Polybius which is now lost) his own examples of distance will be found to give about $9\frac{1}{3}$ stades to a Roman mile, agreeing with the standard of Strabo.†

* Eratosthenes and Strabo allow 5000 stades between the parallels of Syene and Alexandria: and between those of Alexandria and Rhodes, Eratosthenes has 3750, Strabo, 3600; Strabo, p. 114, 115, 116. Syene appears to be in about 24° lat. Alexandria in 31° 11′, Rhodes in 36° 20′. If the two intervals are taken separately, the first of 5000 stades, on $7^{\circ}\frac{1}{6}$, the ratio is 696: and the second of 3750, and 3600, on $5^{\circ}\frac{1}{6}$, the ratios are respectively $728\frac{1}{3}$, and 699. Thus the intervals are not ill proportioned; especially, if Strabo be followed, throughout. Strabo's mean is $697\frac{1}{4}$, Eratosthenes, $709\frac{1}{2}$; mean of both $703\frac{1}{4}$.

† May it not have been, that the prevalent idea of the proportion of 8 stades to a MP. induced the schoolmen to *supply* a deficiency in the text; and to place an 8, where a 9 had originally stood?

On a review of the lines of distance which form the basis of the geography of Eratosthenes and Strabo, along the Mediterranean, it appears that a greater number than 700, perhaps 710, or even more, are required to make a degree. This seems to shew, that the Greeks had originally fixed on a lower standard than 700; for these lines could only be made up from computations which had existed long before the times of those geographers; and which may be found in part, in the Periplus of Scylax. But it clearly appears, from the result of the lines across Asia, and which were obtained from notices collected by Alexander's officers, at a later period, that the stade of 700 was in use with them. And, in effect, the examples adduced from Eratosthenes and Strabo may be said to agree to their established canon of 700; taken at a mean of the whole.

M. D'Anville, in his *Traité des Mesures Itinéraires*, p. 71, and 74, cites two examples in Gaul and Italy, in which the stade of Strabo produces 750; the first on a line of 160, the other of 2800. However, it appears pretty certain, from the great extent of the distances above given, as well as from the stated number set forth by Eratosthenes and Strabo, that not only the standard intended by them, was of 700 to a degree of the meridian, but that the examples collected from them agree to it.*

* Examples from ERATOSTHENES and STRABO.

I. Distances in the Mediterranean reckoned chiefly along the coasts.

1. Between the Promontory of *Sacrum* (Cape St. Vincent) and *Canopus* (Abukeir,) through the Strait of Gibraltar, Carthage, &c. ERATOSTHENES reckons 24,500 stadia; see Strabo, lib. i. p. 64. The distance is about 2008 G. miles. Hence arises a ratio of - - - - - - 732.

2. Between the Sacrum Promontory and Issus, through Calpe, Sicily, Crete, and Rhodes, STRABO reckons 27,500 stadia. (See Gosselin, who has collected the particulars, p. 63). The distance is about 2267 G. miles, and gives a ratio of - 728.

3. Between Rhodes and Issus, being a portion of the last line, STRABO allows 5000 stadia: p. 106, 125. The distance is 407 G. miles *direct*. Hence arises a ratio of - - - - - - - 737.

It has been said that Strabo has quoted a *lost* passage in Polybius, to shew that according to his idea, $8\frac{1}{3}$ stades formed a Roman mile; but that $9\frac{1}{3}$ is the result of the examples of distance. He says, however, lib. iii. c. 4, that the Romans, having measured cer-

As these very long lines of distance must necessarily be made up of several shorter ones, each of which may have some degree of inflection from the other, it must happen (as in the case of Herodotus's road to Susa) that the number of stades represent much longer lines of distance; in other words, that the ratio must be made up of a smaller number of stades, to any given distance. Perhaps 710 may be fully equal to the proportion; as the 4 next lines drawn across the open sea give $706\frac{1}{2}$ - 710.

II. Distances across open seas.

4. Between *Phycus* Promontory in *Cyrenaica*, and that of *Tenarus* in Greece, 2800 stadia. Strabo, p. 837. (Pliny, lib. v. c. 5, has 350 MP. = 2800 stadia also.) The distance is 224 G. miles across; whence a ratio of - - 750.

5. Between the port of *Cyrene* and *Criu Metopon* in *Crete*, 2000 stadia; Strabo, p. 838; distance 175 G. miles direct: ratio - - - - 686.

6. Between the Promontory *Pachynum* in *Sicily*, and *Criu Metopon* in *Crete*, 4500, to 4600 stades, Strabo, p. 106 and 363. The distance 400 G. miles: whence 675 to 690: mean - - - - - - $682\frac{1}{2}$.

7. Between the Promontory of *Samonium* in *Crete*, and *Rhodes*, 1000 stadia; Strabo, p. 106. The distance is 80 G. miles, whence - - 750.

The mean of the four last, taken collectively at 10,350 stades, to 879 G. miles, is - - - - - - - $706\frac{1}{2}$.

III. (Land Routes.)

8. Between Issus and the Caspian Strait, see Gosselin, p. 64, is 10,000 stadia. We measure on the map, 760 G. miles direct, which at 700 to a degree, produce only 8860 stades. Hence there is a deficiency of 1140: and it appears that the road distance must have been intended, as $\frac{1}{8}$ part added, comes within 32 stades, or about 3 miles. If we add to 760, one-eighth, or 95, the sum is 855 G. miles; whence the result will be to a degree - - - - - 702.

9. Between the Pass of Mount *Zagrus*, and the *Caspian* Strait, Strabo, p. 525, allows 4100 stades. The direct distance is 308 G. miles, equal to 3593 stades of 700 to 1°. If we add to 308, one-eighth, or $38\frac{1}{2}$ G. miles, the sum is 346 G. miles; and the deficiency will be 58 stades, or about 5 miles. The result - 710.

10. Between the *Caspian* Strait and *Aria* (Herat), Strabo, p. 513, allows 6400 stadia. It appears, however, that there is an error, and that the sum should be 5594: for Strabo, p. 514, allows only 4530 between *Aria* and *Hecatompylos*, through which

Iain roads in Spain, set up marks at the distance of every *eight* stadia. No one can well doubt, that these intervals were *Roman miles*: but this is quite contrary to the quotation of Strabo; and one is puzzled what to think of the matter. It would seem, however, that if Polybius is right, (and in this, Pliny will be found to agree,) the Romans had a stadium of their own, equal to the eighth part of their mile, or 625 Roman feet.

But by a comparison of the numbers of stades, in Polybius, with the ground, a result of 696 appears: by which we can only conclude, that although he describes a stade as the 8th part of a mile, yet that he uses a different standard in giving the extent of countries and roads; and that, apparently, of the ancient Greek *Itinerary* stade; since it approaches so near it: for about 600 of the Roman stades are equal to a degree; whilst his result is 696, or nearly that of Strabo, and Eratosthenes. Here follows the detail:

latter, the road lay, from the Strait; and although he allows 1960, p. 514, between the Strait and Hecatompylos, yet Pliny, lib. vi. c. 15, shortens it to 1064, which indeed agrees to the distance, taking *Damgan* for *Hecatompylos*. The distance is 443 G. miles, to which add $\frac{1}{8}$ or 55, the sum is 498 G. miles; and the result 675.

11. *Hecatompylos* to *Aria:* (Damgan to Herat) a portion of the former route. Given at 4530 stadia: distance direct, 365 G. miles. Add $\frac{1}{8}$, or 45; total 410. Result - - - - - - - 663.

12. Between *Babylon* and the *Sea*. Strabo, p. 80, allows 3000 stadia; but both Pliny and Arrian make it 3300. The direct distance is $259\frac{1}{2}$; add $\frac{1}{8}$, or $32\frac{1}{2}$; total 292; result - - - - - - 678.

The mean of these five last, collectively, 27,524 stades, to 2401 G. miles, is 688.

Sea routes *generally* - - -	710
——— across seas - -	$706\frac{1}{2}$
Land routes - - - -	688
Mean of all -	$701\frac{1}{2}$

It may be added, that a line from the *Troade* to *Chalcedon*, and thence coasting the Euxine, through *Heraclea*, *Carambis*, *Sinope*, *Amisus*, *Trapezus*, and the mouth of the *Phasis*, to *Dioscurias*, producing 864 G. miles, is given by Strabo (collected by Gosselin, in pages 86 and 98) at 10,100 stadia; consequently the rate - $701\frac{1}{3}$.

The distances are taken on D'Anville's map.

1. Between the Strait of Gibraltar and the *Phylenian* Altars near *Cyrene*, on more than 16,000 stades; the distance through *Carthage* and the Island of the *Lotophagi* being 1407 G. miles, the result will be - - - - - 682 stades to a degree.

2. Between the aforesaid Strait and the extremity of the *Pyranees*, 8000 stadia; the distance, allowing inflections of the road, $\frac{1}{8}$ part, 630 G. miles - - - 762

3. Between the strait and Carthagena, 3000 stades, 259 G. miles - - - - - 695

4. Between Carthagena and the river *Ebro*, 2600 stades, 219 G. miles - - - - - 712

5. Between the *Ebro* and *Emporium*, 1600 stades, 152 G. miles - - - - - 632

Mean of all, on 24,000 stadia - - 696

Pliny, as appears by a comparison of his statements with those of the Greeks, invariably reduces *their* stades to Roman miles, at the rate of 8 to a mile. The instances are very many, in which he recounts the measures of roads and countries that occur in the Greek authors. He says, lib. ii. c. 23, that a stade consists of 125 paces, equal to 625 Roman feet. Now as the Grecian stade mentioned by Herodotus (and often called the *Olympic* by succeeding authors) consisted not of 625, but of 600 feet, one must naturally suppose that Pliny meant a *Roman* stade, admitting that such a measure actually existed; (and Dr. Arbuthnot inserts it in his Tables of Roman measures;)* since it differs so considerably, both from the aforesaid stade described by Herodotus, and from the Itinerary stade.

This supposition will at least give some degree of consistency to Pliny's calculations; since he may have known of no other stade

* It has also appeared in the foregoing page, that Polybius actually described such a stade on the Roman roads.

than that of 625 feet; 8 of which were really equal to a Roman mile, as he has calculated. And if he had no other knowledge of the Greek stadium (whether *Olympic*, or *Itinerary*) than from books, the mistake might easily enough be made.

The examples that occur in Pliny's statement of distances, give the same results with those of Eratosthenes and Nearchus, respectively; which must of course happen, as he copies their numbers. But following his own standard of 8 to a mile, he made too great a number of miles, out of these stades. However, furnished with the above information, we are enabled to turn them back again into stades, by multiplying by *eight*.

There is one line of distance in Pliny, which occurs no where else, and which is well worth remarking. In lib. vi. c. 24, he says, that "the distance sailed by Nearchus, between the mouth of the Indus and Babylon, was 2500 Roman miles," and these we must suppose, were calculated as usual, at the rate of 8 stades to a mile; so that the original number of stades would have been, of course, 20,000. Now as he also says, that the distance between Babylon and the sea (at the mouth of the Euphrates) was 412 MP. equal to 3296 stades, there remain of course, 16,704 for the distance between the mouths of the two rivers, Indus and Euphrates.

We measure, on the charts of Captains M'Cluer, and Robinson, 1330 G. miles, on the line that Nearchus may have been supposed to trace, in his navigation along the coasts of India, Karmania, and Persia, &c. from the mouth of the Indus to that of the Euphrates;* and as the number of stades was about 16,700, the number to a degree will be $753\frac{1}{2}$. But as the numbers of stades copied from Eratosthenes, were at the rate of 700 to a degree, Pliny's result should be a mean, between that, and $753\frac{1}{2}$; and of course, $726\frac{3}{4}$; say 727.

The stade of Nearchus, collected from the abstract of his journal in Arrian (that is, in the *parts* where we have been able to follow

* That is, the *ancient* mouth, now named *Chor Abdilla*.

him) is of a standard *somewhat longer* than that arising from Pliny's report of the *whole* distance: for it is at the rate of 729 to a degree. It is certain that a great part of the numbers are corrupted, but there occur, nevertheless, certain portions of distance, amounting in the aggregate, to about 7000 stades (or $\frac{2}{5}$ of the whole distance sailed), in which the report of Arrian, coincides with that of Strabo, and no less with the actual geography. Within these spaces, then, the mean result is $729\frac{1}{3}$, although different portions of it vary from 723, to 778.* In effect then, the difference between Arrian and Pliny, is far from considerable; and it is rather wonderful, that a ship's reckoning should agree so nearly with the mean ratio of the land routes.†

It appears unnecessary to bring together any more examples, to prove, what was the generally received opinion amongst the Greeks, concerning the length of the stade, in use, as an Itinerary measure: it evidently came between the 700th and 750th part of a degree of a great circle.

If Herodotus is founded, in respect of the number of stades on the road to Susa, it appears, when the distances collected from Strabo and Eratosthenes are added, that the distance across Asia, from *Ephesus* to *Aria*, more than 20,000 stades, was taken at the scale of 700 to a degree, nearly. At the same time, the whole length of the Mediterranean, more than 27,000 stadia, as well as the track of Nearchus, 17,000, together with the march of Xeno-

	G. M.	Arrian's stades.	Result.
* 1. Between the rivers Indus and Arabius - -	$65\frac{1}{2}$	850	778
2. From NE point of *Kismish* I. to the river *Endian (Arosis)* - - - - - -	$514\frac{1}{2}$	6200	$723\frac{1}{3}$
Mean of the aggregate sums -	580	7050	$729\frac{1}{3}$

† The reader will perceive also the near proportions between this stade of Nearchus, and that arising on the routes *through the Mediterranean*, taken at large: Nearchus's being 729, the others from 728 to 737.

phon, and divers portions of roads, in Greece, Spain, Italy, and Gaul, were calculated on a scale between 710 and 750. It is true, that the length and breadth of the Mediterranean, and the trace of Nearchus's voyage, may be regarded as founded on the calculations of seamen; but those seamen must have referred to some particular standard, and commonly sailed too near the land, to be much deceived in their distance. They even knew how to calculate distances in the open sea; for the mean of 4 lines of distance, collectively amounting to 10,350 stades, comes very near to the other proportion.

As the distances along the Mediterranean, must, in the nature of things, have been determined long before those on the continent of Asia, the inference naturally is, that a stade of a *shorter* standard than that of 700, existed in *very early* times: and that, by the recurrence of it, so often, it was deeply imprinted on the minds of the people, although philosophers or princes may have sought to adopt a standard somewhat different.*

We shall now recapitulate the different results, on examples from the date of Herodotus, inclusive.

Herodotus	732	Greatest difference 54, or about $\frac{1}{14}$th part.
Pausanias	707	
Xenophon	750	
Eratosthenes	700	
Strabo	700	
Polybius	696	
Pliny	727	
Arrian (from Nearchus)	729	
Mean of all	$717\frac{5}{8}$, or 718.†	

* Such changes have often been attempted, and sometimes effected, by sovereigns. In India, both Acbar, and Shah Jehan, changed the standard of the *coss*, in their regulations, but could never alter the popular opinion respecting it. The old coss had been too long established, to allow of a change. See Memoir of Map of Hindoostan.

† Had the proportion been 720, there would have been 12 stades to a geographic mile, 10,36 to a British mile.

This mean stade, in English feet, would be equal to $505\frac{1}{2}$. The proportion on the stade of Strabo, of 700 to a degree, would be 524 feet; and on that of Xenophon, of 750, 489 feet; whilst that calculated on the 150th part of a mean march of our scale, would be 493. Thus our mean march agrees to Xenophon's, as 493 to 489: and our mean stade of 718 to that of Xenophon, as $505\frac{1}{2}$ to 489. The differences are certainly very small.*

The above examples prove at least, that the stade of 600 Grecian feet, spoken of by Herodotus, and that of 625 Roman feet, by Pliny, *i. e.* of about 600 to a degree, could never have been applied by the *Greeks* to the measurement of roads. For the *longest* of the *Itinerary* stades is $\frac{1}{7}$ shorter than that of 600 feet: the *shortest* of those measures $\frac{1}{5}$ less; and the *mean* of all, $\frac{1}{6}$ less. Had a stade of 600 feet been the standard, the examples would not, surely, have *uniformly* fallen short of it, as we find it does. Nor, on the other hand, would it have risen so far *above* the stade, applied by M. D'Anville and others to the track of Nearchus, and to the measure of ancient Babylon; that is, of 1100 to a degree, had there been any foundation for such a standard.†

With respect to the different lengths of the Itinerary stade furnished by these examples, all difficulty concerning their appearance vanishes, when one reflects that the distances in general must have been computed, by land as well as by sea. The *greatest* difference, as we have seen, is about $\frac{1}{14}$ part: and generally speaking, no more than $\frac{1}{24}$th. Such variations ever did, and ever will arise, on computed distances; instances of which, existed on our own public roads, previous to their improvement; and which do yet exist on many of the cross roads. It is probable that Herodotus, Xenophon, Nearchus, Strabo, &c. all intended the same stade, but may have given occasion to different results, by reporting the numbers on the judgment of different persons.

* 150 stades (the number assigned by Xenophon and Herodotus to a *march)* of $505\frac{1}{2}$ feet each, are equal to 14,36 B. miles.

† See Mém. Acad. Insc. Vol. xxx. and his Memoir on Babylonia, in Vol. xxvi.

We should lay more stress on that result, which arises from the ordinary march of the Greeks, as reported by Herodotus, and proved by the journal of Xenophon, to be 150 stades, than on any other *single* authority: more particularly as the scale of *that* march coincides so nearly with the result of our inquiries into the length of the *mean* march, which has been shewn to be rather above 14 road miles of British measure; the 150th part of which, 493, is no more than 4 feet longer than the stade of Xenophon; $12\frac{1}{2}$ short of that, arising on the *general mean* of all the authorities. At the same time, the stade of 600 Grecian feet would give the length of a march at no less than 17 miles, which is out of all proportion.*

It has been observed that the mean stade of 718 to a degree, is somewhat above 500 English feet (that is $505\frac{1}{2}$); and 500 Grecian feet are equal to about $503\frac{1}{2}$ English.† A pace was no doubt the elementary part of Itinerary measures, amongst the Greeks, as well as other nations; and the natural pace‡ is nearly about 5 feet. Is it not probable that the integral measure, the stade, was made up of 100 of these? and that hence arose the stade of about 500 feet, in ordinary use? Some, we know not on what authority, have fixed the Grecian pace at more than 6 of our feet. But it would appear that they took the *orgyia* for a *pace*, although it seems to have been a *fathom*. D'Anville's Mes. Itin. p. 43. It is not probable that any natural pace ever extended to the length of 6 feet, or perhaps to more than five. The Roman pace was 5 of their feet; answering to 4 feet 10 inches of our measure.

* See notes to page 22.

† A Grecian foot being equal to 12,0875 English inches. (Arbuthnot.)

‡ Meaning the *double step*, or *return* of the *same* foot.

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SECTION III.

OF EUROPE, ACCORDING TO HERODOTUS.

The Europe *of Herodotus extended far into* North Asia — *the southern and eastern Parts best known to him* — *Proof that he knew much more than he describes.* — *Pointed Description of Thessaly* — *knew more than Polybius, respecting the North-east Part of Europe; but was ignorant of the North-west Part* — Cassiterides, *meant for* Britain — Celtæ, *and* Cynæta — *Italy, under the Name of* Ænotria — Rome, *of no Importance in the Politics of Greece, at that Day* — *Iberia* — *Course of the Danube* — *Great Extent of Thrace.* — *Getæ, one of its Tribes, believe themselves immortal.* — *Thracian Widows, like those of India, sacrifice themselves.* — *Distinction of* Eastern *and* Western *Scythia.*

It was the idea of Herodtuos, that Europe very much exceeded in *length*, the other divisions of Asia and Africa; but that it was far inferior in *breadth* to either; and, on the whole, that *Europe* was larger than *Asia;* Melpom. 36, 42, and 45. But he also observes, that the boundaries of Europe had not, to that time, been carefully examined; and that it was by no means certain, whether, on the *east* and *north*, it was limited, or surrounded, by the ocean; Melp. 45. It follows, of course, that whatsoever tracts are described by him to extend towards *those quarters*, from the great body of Europe, taken according to the common acceptation; and which are not classed as belonging to Asia; must necessarily have been reckoned by him a part of Europe.

He adds, that he had endeavoured, but without success, to meet with some one, who, from ocular observation, might describe to him, the sea which washes the western part of Europe; concerning which part, any more than the islands called Cassiterides,

from whence they were said to have their tin, he was unable to speak with decision:* but that it was nevertheless certain, that both their tin and amber *were* brought from those extreme regions; and the amber in particular, from the river *Eridanus*, which discharged itself into the North sea. On this name Eridanus, our Author observes, Thalia, 115, that it is certainly of Greek derivation, and not barbarous; and was, as he conceives, introduced by one of their poets.†

Our Author differs from all others, Procopius excepted, respecting the eastern boundary of Europe. Others have assigned the *Tanais*, (or *Don*):‡ but Herodotus extends Europe eastward to the utmost bounds of his knowledge; placing Asia rather to the *south*, than to the *east*, of Europe. Accordingly, the Colchian Phasis is reckoned by him the common boundary of Europe and Asia,§ from the point at which the Euxine ceases to form it. Beyond this, the boundary remains indefinite; but may be conceived to pass by the north of the Caspian sea, towards the mountains that give rise to the river Irtish; of which more in the sequel, when we enter into the detail of the regions properly belonging to Asia, but which he assigns to Europe.

Of this division of the earth, the parts most familiarly known to him, and to the Greeks of his time, were those situated along the Mediterranean and Euxine seas; for the extent of the former, and

* Thalia, 115. His want of information, in this matter, can only be referred to the jealousy of the Phœnicians.

† Larcher, quoted by Mr. Beloe, observes that "the *Eridanus* here alluded to, could not possibly be any other than the *Rho-daune*, which empties itself into the *Vistula*, near *Dantzic*; and on the banks of which, amber is now found in large quantities." Such a modification of the name appears very probable.

‡ The *Tanais* divides Asia from Europe, says Strabo, p. 310; Pliny, lib. iv. c. 12; and Diodorus, lib. i. c. 4. Africa is contained between the Nile and the Pillars of Hercules; Asia between the *Nile* and *Tanais*, says Polybius, lib. iii. c. 4.

§ In his specification of the *regions* of *Asia*, Melp. 37, *et seq.* the Phasis is evidently taken for the boundary of *Asia*. Procopius speaks positively; Bell. Goth. lib. iv.

that of Europe along its borders, were very well known, by the frequent voyages made by the Greeks; and from the notices collected from the Phœnicians, Carthaginians, and Egyptians. Herodotus calls it, "*the sea frequented by the Greeks.*" The extent of the western coasts of Europe, must have been known in like manner, by the voyages to and from Tartessus, Gades, the Cassiterides, and the Baltic. Such particulars could hardly have been concealed; nor would a *general* idea of *distance* and *juxtaposition* have enabled a rival to derive much advantage. But there are, however, no notices concerning either the extent of the Mediterranean sea, or of the western coasts of Europe, to be found in our Author: nor indeed, could they be looked for, since such were foreign to the scope of his history. Much less could it be expected that he should enter into a description of the geography of *Greece*, and the surrounding countries; although the *scene* of the glorious events which it is the ultimate purpose of his book to record. The reason clearly is, that he considered himself as speaking to men who were perfectly well informed on the subject: so that, instead of describing the geography of Greece, he even alludes to certain parts of it, as well as of Italy, in order to explain his descriptions of other countries. For instance, in the description of the *Taurian Chersonese*, in Melpom. 99, he refers to certain parts of the coasts of *Attica* and *Magna Græcia*. His descriptions of the country of Thessaly, the Strait of Thermopylæ, and other places, prove how well he had considered the scenes of particular actions: and we shall select, in a note, that of *Thessaly*, as one of the most pointed, clear, and concise imaginable.*

* Polymnia, 129. "Thessaly is said to have been formerly a *marsh*, on all sides surrounded by lofty mountains; to the east by *Pelion* and *Ossa*, whose bases meet each other; to the north by *Olympius*, to the west by *Pindus*; to the south by *Othrys*. The space betwixt these is THESSALY, into which depressed region many rivers pour their waters, but more particularly these five, the *Peneus*, the *Apidanus*, the *Onochonous*, the *Enipeus*, and the *Pamisus*: all these, flowing from the mountains

Had he written a system of geography, it would have been unquestionably, his province to describe Greece, &c.: but as a historian, he *refers* to the *known* parts of geography, to illustrate his history; and when the geography was supposed to be unknown to his readers, or not sufficiently generalized, he very properly enters into a description of it.

Since our Author has given no idea of the *extent* of Europe, westward, it is not possible to know what his opinions were, on that subject; that is, *critically;* for it will appear hereafter, in discussing the subject of Africa, that he *seems* to allow an extent of space between *Egypt* and *Mount Atlas*, that agrees generally with the actual geography: but the notices are very far from being positive, and the chain of distance is so often interrupted, that, although much internal evidence arises out of the whole *data*, yet the question by no means admits of direct proof.

There can, however, be no doubt that Herodotus knew, and that critically, the extent of the Mediterranean, and of Europe along its coasts; since it is known from the Periplus of Scylax, written as it may be concluded, long before the days of our Author, that the distances had been estimated generally, throughout the Mediterranean; and along the western coast of Africa, as far as Arguin at least.* From *this* work then, or from such kind of notices, existing among the maritime powers, on the borders of that sea, it may be conceived that Herodotus formed his ideas of the

which surround Thessaly, into the plain, are till then distinguished by specific names. They afterwards unite in one narrow channel, and are poured into the sea. After their union, they take the name of *Peneus* only. It is said, that formerly, before this aperture to the sea existed, all these rivers, and also the lake Bœbeis, had not, as now, any specific name, but that their body of water was as large as at present, and the whole of Thessaly a sea." The remarks of Xerxes on Thessaly in the succeeding chapter, are worth attention; as is the description of *Thermopylæ* in chapter 176.

* The Periplus of Scylax is supposed to have been written subsequent to the expedition of Hanno, and before the time of Xerxes.

extent of the Mediterranean; of Europe; and of Africa. It may reasonably be concluded that succeeding geographers adopted the same system; gradually correcting it in particular parts, as discovery or improvement furnished new lights towards it. This may be traced in the different statements of the length of the Island of Crete; which, from 2500 stadia in the time of Scylax, was reduced first to 2300 by Sosicrates, and then to 2000, by Strabo. And this latter computation, as may be seen in page 14, comes very near the truth; allowing somewhat for the indentings of the coast. But errors with respect to some grand points of relative position, having remained on the continent of Asia, in the system of Eratosthenes, notwithstanding the notices furnished by the expedition of Alexander, it may be supposed that errors also continued to exist in the Mediterranean. The great source of these errors seems to have been, the difficulty of adjusting any two positions, in respect of a particular meridian, when widely removed in point of parallel; without the aid of celestial observations, or of the magnetic needle.

If Eratosthenes appreciated the extent of the Mediterranean, by the computations which existed in the time of Herodotus, this latter must have reckoned it too long by about a 15th part; for such it appears to be, on a comparison of the number of stades given by Eratosthenes (30,000), between Cape St. Vincent and Issus; allowing a reasonable degree of inflection to the line of distance on which he reckoned.

But Strabo, who allowed no more than 27,500, fell short by a small proportion, *i. e.* $\frac{1}{64}$ only. We have here calculated on the *mean* stade, arising on the examples before cited; that is, 718 to a degree. It is obvious, that if 700, the proportion assumed by Eratosthenes and Strabo, had been adopted, the error in excess would have been very great indeed: but, it is probable that this standard was assumed, long after the calculations adopted by them, had been formed on a shorter standard. And on the whole, it appears to us,

that Strabo approached nearer to the just measure of the length of the Mediterranean, than any other of the ancient geographers. Ptolemy, strange to tell, was nearly $\frac{1}{3}$ in excess!

It has been suggested that it was foreign to the plan of our Author's history, to say much concerning the geography of *Western* Europe, had he been well informed concerning it: but, we conceive that he had a very limited knowledge even of its coasts; for Polybius, at a much later period, observes, lib. iii. c. 4, that the part of Europe beyond Spain, bordered by the exterior sea (or Atlantic), "had been but lately discovered, and was possessed by a race of barbarous people. That those parts of Europe lying between *Narbonne* and the *Tanais*, are also unknown; and that the reports concerning them, ought to pass for fable or invention." Now, taking Narbonne for that part of France which borders on the Mediterranean, it appears that Polybius, who wrote at about three centuries after Herodotus, was ignorant of *all* the northern and eastern part of Europe: and probably of some parts of it, that were known to Herodotus; for instance, Scythia and Sarmatia: but it may be inferred that the knowledge of the latter, with respect to the western parts, was not more extensive than that of Polybius. Even to the time of Strabo (admitting that he possessed all the geographical knowledge of his time), the form of the coasts of France and Spain was so little known, that he had no suspicion of the existence of that wide and deep gulf called the Bay of Biscay, and Gulf of Gascony. The ancients appear to have had no name for this singular bay, although every division and almost every corner of the Mediterranean had appropriate names, and in some instances more than one. And so vague were the ideas entertained by Diodorus respecting positions in the Atlantic, that he says, lib. v. c. 2, that the *Cassiterides*, or the Tin Islands, are situated opposite to *Iberia*, or Spain.

After our Author's frank confession of his ignorance respecting the detail of the western coasts of Europe, and of the Cassiterides,

it will not be expected that he should have had any idea commensurate to the extent and importance of the British Islands: or that they contained an area equal to Greece and Italy collectively.

It is curious to trace the progress of knowledge respecting this matter, as far as it can be collected from books. Eratosthenes first gave a rude idea of the form of Britain; but was ignorant of the existence of Ireland. It may indeed be suspected, that Ireland was never known to the Greeks, during the period of their independency; for no notices concerning it appear, even in Polybius. Strabo knew of the existence of both, but the true form of neither: and in the position of Ireland, he erred so much, as to place it on the *north* of Britain, and at such a distance from it, as to occupy the situation of the Islands of Faro, nearly; pages 72, 115. He supposed it to be very large: but by placing it so wide of its true position, it may justly be doubted whether the Romans had ever visited it, to that time.*

Pliny was better informed respecting its situation, for he places

* Strabo describes its inhabitants to be *completely barbarous;* pages 115, and 201; and its climate to be such, as to be almost uninhabitable, through extremity of *cold.* This fact, perhaps, was *assumed* by those, who assigned it so northerly a position; since Ireland is known to have a more temperate atmosphere than Germany.

It is to be observed, that the inhabitants of OUR Island are also spoken of by some of the Roman writers, as being not a little barbarous; Cæsar, in particular, mentions certain customs which are almost too indelicate for belief. In the following passage in Diodorus, lib. v. c. 2, it is not altogether certain, though highly probable, that the *country* intended, is Ireland. The *people* however, are unquestionably *British;* and therefore a British colony settled in Ireland, should be meant: and indeed Ptolemy places *Brigantes* in Ireland, as well as in England. Diodorus then, speaking of the *Celtæ*, or *Gauls*, and their northern neighbours, says, that they are so fierce and cruel, that it is reported that they *eat men, like the Britons of* IRIS (or IRIN.)

But the same author, and in the same chapter, gives a very handsome character of the British; such indeed, as we ought to be proud of, and which we are accustomed to value ourselves on: that of being UPRIGHT and SINCERE. And since he applies this character so pointedly to the people of this Island, it may with more probability be supposed, that in the former case, he spoke of some other country.

it at no greater distance than 30 MP. from the *Silures*; (South Wales;) that is 24 G. miles: and although it may be about 16 or 17 more, yet this must be reckoned a near approximation for those times. In the same place, however, lib. iv. c. 16, he allows 50 MP. or 40 G. miles, between Boulogne and the nearest part of the opposite coast, which space ought to have been better known.*

Ptolemy's delineation comes the nearest of any, to the shape of South Britain and Ireland; and, of the two, much the nearest to Ireland, whose dimensions are also very near the truth, whilst those of England are very faulty; it being represented too long and too narrow; which latter is an error of a contrary nature from what commonly happens. Scotland is unaccountably made to lie east and west, instead of north and south; but Scotland was much less known than England. Ireland, in respect of position, is placed too far to the north; for although Pliny knew that its south-east angle lay opposite to South Wales, yet Ptolemy places it opposite to North Wales; and twice as far off as it ought to be. We solicit the indulgence of the reader, for this digression, on an occasion where our Author is silent, and where we feel ourselves so deeply interested. To a philosopher, the changes in the comparative state of nations in different ages of the world, are very striking, and lead one to reflect what may be the future state of some *now* obscure corner of New Holland, or of North America; since our own Island was known only for its tin mines, by the most celebrated of ancient nations; whose descendants, in turn, rank no higher with us, than as dealers in figs and currants.

Our Author had heard of the CELTÆ, who lived beyond the columns of Hercules, and bordered on the CYNESIÆ or CYNETÆ, the most remote of all the nations, who inhabited the western part

* Pliny allows the dimensions of Ireland, (following Agrippa,) to be 600 MP. by 300; which breadth, and no more, he allows also to Britain; whose length was supposed to be 800. Both were, of course, over-rated; and particularly Ireland, whose *length* hardly exceeds the given *breadth*.

of Europe; Euterpe, 33, and Melpom. 49. Who the latter were intended for, we know not. The Danube is said to spring from amongst the CELTÆ;* so that, if he knew the true position of its source, he must have meant to include the inhabitants of Western Europe, generally, under one denomination of CELTÆ; and which might probably have been correct, at that day.†

Italy, or part of it, he designs under the name of *Ænotria*, on occasion of the retreat, and settlement of the Phocæans of Iönia, there.‡ *Umbria*§ and *Liguria*, in the north of Italy, as well as *Tarentum*, *Crotona*, *Sybaris*, &c. in the south, (or *Magna Græcia,)* are mentioned by him. He moreover resided a considerable time at *Thurium*, a Grecian colony, situated near to, or on the site of *Sybaris*.

He mentions occasionally most of the larger islands of the Mediterranean; as Sicily, Crete, Sardinia, Cyprus, Corsica;|| but is silent concerning Rome: and considering that at the probable date of his history, the Romans were confined to the centre of Italy; had hardly taken *Veii;* and had not appeared in fleets on the Mediterranean; what was there for a Grecian to remark concerning

* The place of its source is said to be named *Pyrene;* Euterpe, 33.

† It seems as if Diodorus regarded as *Scythians* all those situated to the eastward of the *Celts;* lib. v. c. 2. We shall have to remark the same of Pliny.

‡ Clio, 167. They first settled in the *Ænussæan* Islands adjacent to *Chios;* thence they proceeded to *Cyrnus* (Corsica), where they had previously founded a city named *Alalia;* and finally to *Ænotria*, where they built the city of *Hyela*, in the tract between *Pæstum* and Cape *Palinurus*.

§ *Umbria* was the seat of the *Tyrrhenians*, from whence the adjacent sea was sometimes denominated. The Tyrrhenians were a colony from *Lydia*, who migrated on occasion of a famine. They settled in *Umbria*, called also *Etruria*, (now *Tuscany,)* and changed their ancient appellation of *Lydians*, for that of *Tyrrhenians*, after Tyrrhenus, the son of their former sovereign, who conducted them; Clio, 94. In c. 166, the Tyrrhenian fleet, in conjunction with that of Carthage, attack the Phocæan fleet of *Cyrnus*.

|| That is, *Sicily* under the name of *Sicania;* Polym. 170: *Corsica* under that of *Cyrnus;* Clio, 165.

them ?* Spain, under the name of *Iberia*, is mentioned, as well as *Tartessus*, near Cadiz: but his acknowledging that he had not been able to meet with people who could give him any description of the European seas, appears decisive of his want of knowledge of the western side of Europe.

He remarks that the Danube passes through the *centre* of Europe; and afterwards by an *oblique* course, enters Scythia; Melpom. 49. This description is just; for its general course does really divide the central parts of Europe, in the midst; and having arrived in the neighbourhood of the Euxine, it takes a sudden turn to the north-east, towards Scythia.

He appears to have had a very indistinct idea of the tract between the Adriatic sea, and the Danube. The Eneti, (*Heneti* or *Veneti*) Terp. 9, are said to border on the Adriatic; and the *Sigynæ*, to have extended to their neighbourhood.† But the context, as it stands, appears contradictory: for the Sigynæ are said to lie *beyond* the Danube, and yet to extend almost to the *Eneti* on the *Adriatic*. The passage alluded to, is as follows:

"With respect to the more northern parts of this region (Thrace) and its inhabitants, nothing has been yet decisively ascertained. *What lies beyond the Ister, is a vast and almost endless space.* The whole of this, as far as I am able to learn, is inhabited by the *Sigynæ*, a people who in dress resemble the Medes; their horses are low in stature, and of a feeble make, but their hair grows to the length of 5 digits: they are not able to carry a man, but, yoked to a carriage, are remarkable for their swiftness; for which reason, car-

* Arrian, in his History of the Expedition of Alexander, lib. vii. c. 1, speaking of the future plans of that conqueror, after his return from India, says, that a report prevailed, amongst others, that he intended "to sail round Sicily, by the Promontory of *Japygium*: for then it was that the Roman name began to spread far and wide, and gave him much umbrage." This was much more than a century after the date of our Author's history.

† The *Eneti*, in Clio, 196, are said to be of *Illyrian* origin.

riages are here very common. The confines of this people extend almost to the *Eneti* on the *Adriatic*. They call themselves a colony of Medes."—Terp. 9. Now, hé had been speaking of Thrace, and of its northern part, concerning which nothing decisive had been ascertained; and after this, he introduces the country, *north* of the Danube, as a *vast*, and almost endless space; and says that it is inhabited by the *Sigynæ*, who extend almost to the *Adriatic*. May it not be suspected, that the sentence respecting the country beyond the Danube, is misplaced altogether; and that the Author intended to say that "the *Sigynæ* inhabited the northern part of Thrace," which lay, however, on the south, or Grecian side, of the Danube?

Thrace included a considerable tract of Europe in early times, but not to the extent that the expression of Herodotus, would lead us to expect. "THRACE," says he, "next to INDIA, is the most considerable;" Terp. 3. But as this country is confined on the east and south by the sea, and on the north by the Danube; and as Macedonia and Pæonia are mentioned by our Author, as distinct countries, the extent of Thrace, even allowing it to extend into Dardania and Mœsia, must be much more circumscribed than the idea of our Author allows. It has, however, more extended limits in his geography, than in that of succeeding authors: and perhaps might have included most of the space along the south of the Danube, between the *Euxine* and *Istria*; meeting the borders of Macedonia, Pæonia, &c. on the south: and the *Sigynæ* above-mentioned, might have occupied the N W quarter; the modern *Servia*, *Bosnia*, and *Croatia*.*

The inhabitants of the NE angle of Thrace formed by the Euxine and the oblique course of the Danube, are the *Getæ* of our Author. They were reduced by Darius Hystaspes in his way to Scythia, and are classed as Thracians; Melpom. 93.† Herodotus

* *Signia* is a position, in ancient geography, on the Adriatic towards the ancient seats of the *Veneti*. Query, has it any connection with the *Sigynæ* of our Author?

† Subsequent authors place the *Getæ*, on the *north* of the Danube, and in *Moldavia*.

observes generally of the Thracians, that "if they were either under the government of an individual, or united amongst themselves, their strength would render them invincible: but this is a thing impossible, and they are of course but feeble. Each different district has a different appellation; but except the *Getæ*, the *Trausi*, and those *beyond Crestona*,* they are marked by a general similitude of manners;" Terp. 3.

The *Getæ*, says Herodotus, "are a people who *pretend to immortality*: whenever any one dies, they believe that he is removed to the presence of their god *Zamolxis*: they are of all the Thracians the *bravest*, and the most *upright*;" Melp. 93, 94.

The Thracians *beyond Crestona* are remarkable for having amongst them the same horrible custom which prevails in India; that of their widows sacrificing themselves at the funerals of their husbands; but the bodies are buried, and not burnt, as in India.† It appears that Herodotus did not know that this custom prevailed in India: and indeed his knowledge of that country was very much confined.

* *Crestona*, or *Crestonia*, lay between *Mygdonia* and *Sintica*, and may be reckoned the eastern frontier of *Macedonia*, towards *Thrace*. The river *Chidorus*, which discharges itself into the *Axius*, near Pella, *rises* in *Crestona*, and flows through *Mygdonia*; Polymnia, c. 124, 127.

In Clio, 57, the *Crestonians* are said to be a remnant of *Pelasgians*, situated beyond the *Tyrrhenians*, but who formerly dwelt in the country afterwards named *Thessaly*, and were neighbours to the *Dorians*.

It may be suspected that *Tyrrhenian* is a mistake, and that *Thermæan* should be substituted for it; as *Therma*, afterwards *Thessalonia*, agrees to the situation. Therma and its gulf are mentioned in Polym. 121, 123, 124. We have heard of no Tyrrhenians, but those of Italy.

† "Each person has several wives. If the husband dies, a great contest arises amongst his wives, in which the friends of the deceased interest themselves exceedingly, to determine which of them had been most beloved. She to whom this honour is ascribed is gaudily decked out by her friends, and then sacrificed by her nearest relation, on the tomb of her husband, with whom she is afterwards buried. His other wives esteem this an affliction; and it is imputed to them as a great disgrace." Terpsichore, c. 5.

We cannot help remarking (having ourselves witnessed a sacrifice of this kind in

No mention is made concerning the belief of the immortality of the soul, amongst these Thracians, as amongst the Getæ; but it surely is proved by this very circumstance: for what else could induce this voluntary sacrifice?

It appears almost a matter of certainty that Herodotus knew no particulars of the geography of Western Europe, between Scythia (on the Euxine), and the Bay of Biscay, on the east and west; and between the Alps and Carpathian mountains on the south, and the shores of the Baltic on the north. Concerning the position of this northern sea, and the countries beyond Scythia, more will be said under the head of Scythia, and its concerns; as, in order to explain the subject with effect, much preliminary matter must be gone into.

The country of SCYTHIA, he places next in order to Thrace, going north-eastward, along the shores of the Euxine and Mæotis. "Where Thrace ends, Scythia begins," says he, Melp. 99. It will appear, however, that the Scythians of Herodotus were the *Sarmatiæ* and *Getæ* of the Romans; and his Massagetæ, the *Scythians* of the same people; as well as of the Greeks in general, from the date of Alexander's expedition. But as the subject is intricate and extensive, and requires much discussion and elucidation, it may be proper at the outset to take a comprehensive view of it: and afterwards to arrange it under the distinct heads of *Western* and *Eastern* Scythia; the former of which belongs to the division of Europe, the latter to that of Asia; following the rule that we have prescribed to ourselves in the division of the work.

The ancients distinguished two countries by the name of SCYTHIA, the one extending along the north of the Euxine, the other beyond the Caspian and Jaxartes. The latter was again subdivided into two parts, by the chain of *Imaus*, a branch projecting

India), how many points of resemblance there are between what we saw, and the mode described by Herodotus. It may be added, that there occurs in Diodorus, a description of the burning alive of an Indian widow, which agrees exactly with the present practice; of which more in the sequel.

northward from the *Indian Caucasus:* and which subdivisions were, from that circumstance, distinguished by the names of Scythia *intra, et extra,* IMAUM.

The Western, or Euxine Scythia, was the one invaded by Darius Hystaspes: on which occasion, the Ionians, by preserving the bridge of boats over the Danube, secured his retreat; and the Eastern Scythia, called also the country of the Massagetæ, was the one invaded by Cyrus; in which, according to our Author, as well as Justin and Diodorus, he lost his life.

Herodotus describes the Western Scythia to extend from the lower part of the Danube, and the country now called Hungary, on the west, to the Tanais on the east; a tract which was afterwards better known by the name of the *European* Sarmatia. The *Asiatic* Sarmatia, and other tracts, filled up the space between the Eastern and Western Scythias; which space may be understood to extend to the river *Daix,* (the present *Jaik*, or more properly *Daek,)* where the Eastern Scythia began, and extended eastward to the country of the *Yugures*, or *Oigurs.*

It would appear that Herodotus was not decided in his opinion, whether or not, the Massagetæ were to be regarded as a *Scythian* nation; but subsequent writers have almost universally reckoned them so. So that the *proper* Scythians of Herodotus, were those at the Euxine; and those of succeeding writers, at the Caspian (or rather Aral) and Jaxartes. For our Author, who calls the Massagetæ, a great and powerful nation, says, " they are by *some* esteemed a *Scythian* nation:" and that, " in their clothes and food, they *resemble* the Scythians;" implying that they were not confessedly a Scythian nation. He says moreover, " what the Greeks assert in *general* of the *Scythians*, is true only of the Massagetæ;" Clio, 201, 215, 216.

The Greeks appear to have first used the term SCYTHIA, in its application to their neighbours, the Scythians of the *Euxine;* who were also called *Getæ* and *Gothi:* and were those who afterwards

subdued the Roman empire: and from which original stock, the present race of people in Europe seem to be derived.* Some modern writers of great authority have supposed that the word *Scythiæ*, *Skutæ*, or *Kuthæ*, was only another reading of *Getæ*: as also that *these* are of the same nation with the *Massagetæ*; which is, indeed, very probable; although there is no *necessity* for supposing it. Probably the early Greeks, hearing of a nation of Getæ beyond the Caspian and Jaxartes (for the remains of the Getæ existed in the same tract, and under the same name, so late as the time of Tamerlane) gave them the name of *Massa-Getæ*, to distinguish them from the *Getæ* in the west;† but might be in doubt whether to regard them *absolutely* as Scythians. Subsequent information, particularly that derived from the expedition of Alexander, led the same Greeks to class them as Scythians: so that at last, the term *Scythian* seems to have designed *Nomadic* tribes in general; and SCYTHIA at large, a vast extent of country, including several distinct nations and tribes, between the Danube, and the extreme point of their knowledge, eastward. It was perhaps applied, much in the way, in which we apply TARTARY; that is, *indefinitely* to a space *beyond* a *certain known* boundary. Not that it is to be understood that Tartary expresses the same idea, as to extent, as Scythia did: for Scythia contained but a small proportion of what we intend by Tartary.

In our geographical details, we shall endeavour to trace the boundaries of *both* the SCYTHIAS: which, collectively, included a vast space from west to east, though apparently of no very great breadth, considered proportionally.

* Pliny seems to consider the *Scythians* and *Germans*, as one and the same people: lib. iv. c. 12: as Diodorus does the people to the east of the *Celtæ*, generally; lib. v. c. 2. And Procopius, who wrote later than either, says, that the *Goths* were anciently named *Scythians*; Gothic War, lib. iv.

† There seem to have been several distinct tribes of *Getæ*, as those of the *Danube*, the *Thyssa-Getæ* on the *Wolga*, the *Tyri-Getæ* on the *Tyres*; the *Massagetæ* on the *Jaxartes*, &c.

The Western Scythia, then, is a member of Europe, as well under the *proper* boundaries of that continent, as of those *assumed* by Herodotus; for no part of *his Scythia* extended beyond the Tanais, although between the Jaik and the Aral, we must look for a nation of Scythians, whom he represents as having *seceded* from the former nation. But it may well be suspected that those who are marked as *seceders*, approached in their geographical position so near to that of the Massagetæ, that they may have been a part of the same people; and the mistake may have arisen from an error in the supposed relative positions. This will be made more apparent, in the sequel, when it is shewn that our Author supposed a vast difference in parallel, on the globe, between the Massagetæ, the Scythians of Asia, and the Euxine or Western Scythians.

The Eastern Scythians, as belonging to the division of ASIA, will form no part of the following discussion, which is confined entirely to those of the Euxine.*

* Both Arrian and Curtius speak of *European* and *Asiatic* Scythians, as a term of distinction. This seems much the same idea, as our *Eastern* and *Western* Scythians; only it will be shewn in the sequel, that they, like Herodotus, extended Europe very far to the east; and seemingly to the neighbourhood of the Caspian sea, and the river Jaxartes; by the error of supposing a much less extent of space than the truth, between the *Tanais* and *Jaxartes*.

SECTION IV.

OF THE WESTERN, OR EUXINE SCYTHIA; WHICH IS THE PROPER SCYTHIA OF HERODOTUS, BUT THE SARMATIA OF LATER AUTHORS.

Position and Face of Western Scythia—*mistaken Ideas of Herodotus, respecting its Form and Extent*—*Cause of his Errors, and their Effects on the general Geography.*—*True Form and Extent of Scythia, considered generally; and afterwards proved by Deductions from our Author's Facts and Observations*—*Rivers of Scythia, with some of their principal Adjuncts*—*vast* Inland Navigations—*Subdivision of Scythia*—*Difficulties concerning some of the River Boundaries*—*Idea that the* Borysthenes *formerly ran into the* Palus Mæotis; *and that the* Krimea *was an* Island.—*Royal Scythians*—*reported Origin of the Scythian Nation*—*The* Targitaus *of Herodotus, appears to be the* Turk *of the Orientals.*—Cimmerians *dispossessed by the Scythians*—*Cimmerian Antiquities.*—*The* Euxine *Scythians, and those at the* Jaxartes, *from the same Stock*—*Customs common to both*—*Euxine Scythia suited to Pastoral Life*—*The Scythians favoured by Herodotus, in Point of Character*—*his general Accuracy and Candour.*

THE SCYTHIA of Herodotus answers generally to the *Ukraine*, the country of the *Nogaian Tartars*, the *Don Cossacks*, &c.; its first river on the *west*, being the Danube, and its last on the *east*, the Tanais, or Don; Melpomene, 48, *et seq.** It wears, for the most part, the same face now, as in the time of our Author; (who by his own account had visited the Black sea, and we may suppose, of

* The reader is requested to consult the Map of Scythia, No. III. opposite. In this, Scythia is drawn according to its just proportions, but the matter is arranged according to the ideas of Herodotus. His ideas of its *form* and *extent* will be found in No. I.

WESTERN, or EUXINE SCYTHIA:

With the Surrounding Countries, and the
March of DARIUS HYSTASPES.

10 0 10 20 30 40 50 60 70 80 90 100 200
Geographic Miles
100 500 1000 2000
Stades of 718 to a degree

Unmeasured Tract, according to Herodotus

Scythia Nomadum or Husbandmen

Scythia Georgica

Scythia Aratrum

Scythia Agricultural

Scythia Halizonum

Scythia Callipidarum

Scythia Borysthenica

Scythia Hylæa

Scythia Palus Mæotis

Scythia Tauri

Scythia Royal

Scythia Sarmatica

Scythia Tyrica

Scythia Bessarabia

Scythia Bulgaria

Scythia Thrace

Scythia Turcæ

Scythia Turcæ Turgoli or Turgauti

Scythia Tartars of Kuban

Scythia Tartars of the Don

Scythia Tartars of Crimea

Scythia Tartars of Budziac

Scythia Tartars of Nogai

Scythia Tartars of Jedisan

Scythia Tartars of Bessarabia

Scythia Tartars of Bulgaria

Scythia Tartars of Thrace

Scythia Tartars of Turcæ

Scythia Tartars of Turcæ Turgoli or Turgauti

Scythia Tartars of Tauri

Scythia Tartars of Euxine

Scythia Tartars of Black Sea

Scythia Tartars of Euxine, or Black Sea

Scythia Tartars of Euxine, or Black Sea

Scythia Tartars of Euxine, or

course, the *Greek* settlements in Scythia also:) that is, it is composed of vast naked plains, and in a great part occupied by *Nomades*, or wandering tribes. No country whatsoever, was better watered: it having no less than eight large rivers, which were navigable to the sea; and amongst these, the Danube, Tanais, and Borysthenes; Melpom. 47. The pastures watered by some of these rivers are highly celebrated by our Author; and gave occasion to the application of the name of GRASS STEPPE to the tract itself, in contradistinction to the comparative barrenness of the others.*

Although the area and extent of Scythia were greatly underrated by Herodotus, yet, by a misconception of the relative posi-

* Baron Tott's description of that part of the site of ancient Scythia, which he traversed between the *Dneister* and *Krimea*, presents a lively picture of the face of the country. We shall collect the scattered notices that occur in different parts of his narrative; Part II. on the Turks and Tartars.

After crossing the *Dneister* (the *Tyres* of Herodotus) in the line between *Jassi* and *Oichakow*, he says

"The plains which we crossed (those of *Yedassan*) were so level and open, that the horizon appeared only a hundred paces from us, on every side. No rising ground, not even the smallest shrub to make a variety in this picture; and we perceived nothing during the whole journey, but a few *Nogais* on horseback, whose heads were discovered by the piercing eyes of my Tartars, whilst the convexity of the earth still hid the remainder of their bodies. Each of these Nogais was riding alone on horseback.—I was curious to know, what could be the object of these men, and was informed that these people, (thought to be Nomades, because they live in a sort of tents,) were settled in tribes, in *vallies* of 50 or 60 feet deep, which intersect the plain from north to south, and are more than 30 leagues in length, by $\frac{1}{8}$ of a league, (say 600 to 700 yards,) in breadth, the middle of which are occupied by *muddy rivulets*, which terminate towards the *south* in *small lakes* that communicate with the Black sea. The tents of the Nogais are on the banks of these rivulets, as well as the hovels which shelter their numerous flocks during winter. In spring, these are driven to the plains, and abandoned till winter, when they are brought back again to shelter. This was the employment of the Nogais we had met with."

He afterwards says that the extent of plain between the vallies is 10 to 12 leagues; perhaps 30 or more miles. These vallies must be regarded as the *ancient beds* of

tions of the coasts of the Euxine and Palus Mæotis, he has overrated the extent of the *coast* of Scythia bordering on those seas. For, by the context it appears, that he supposed the coasts of the Euxine and Mæotis to form a right angle at their point of junction, at the Peninsula of Taurica (Krimea); presenting *two* sides which respectively faced the SE and SW; or perhaps more strictly the ESE and SSW. Such was the idea of its *position*: and of its *form* and *extent*, that it was a *square* of 4000 stadia, each way. This is collected from the following notices:

"Scythia (says Herodotus,) appears to be of a *quadrangular* form, having *two* of its sides terminated by the sea, to which its other two, towards the land, are perfectly equal. Ascending from the sea, inland, as far as the country of the *Melanchlæni*, beyond Scythia, is a journey of 20 days. According to my computation, a day's journey is equal to 200 stadia: thus the extent of Scythia, along its sides, is 4000 stadia; and through the midst of it, inland, is 4000 more; Melpom. 101.*

Its position in respect of the heavens, is collected from the following circumstances: that Darius Hystaspes, in his memorable invasion of Scythia, "advanced *eastward* towards the *Tanais*," after

rivers; of which more in the sequel. He passed two of them between Bender and Otchakow; and on the way to the second, he says, "we saw the sun appear on the horizon of these plains, as mariners do on the ocean."

In his way from Otchakow to the Krimea, he makes much the same kind of remark: "the noise of the waves (for he went near the sea coast) afforded a more interesting object than the naked plains."

This may suffice for the face of the country: and we have also the testimony of M. Pallas, respecting the flatness and very low level of the country, between the Borysthenes and the Mæotis, in the *Tableau de Physique et Topographique de la Tauride*.

It may be remarked, that Herodotus does not speak of any Nomadic tribes of Scythians on the west of the Borysthenes, where they are now found.

* It may be conceived that when our Author reckons by journies, of a specific length, he means to express the *road* distance: so that a proper allowance is to be made for inflections, in order to reduce it to *direct* distance. We have adopted this idea in the construction of the Map.

passing the *Danube;* Melpom. 122. Again, in chapter 100, the sea (that is the Mæotis) is described to wash the country of the Scythians, *above Tauris* "on the *east;*" and again, in ch. 18 and 20, the *Androphagi* and *Melanchlæni*, two nations who bordered on Scythia, *inland*, are said to lie to the *north;* and the Peninsula of *Taurica* to the *south*.

But, it will be found, that our Author erred very much in his idea of the *form* of Scythia; for the truth is, that the coasts of the Euxine and Mæotis do not conjointly present any such form, as he supposes; but, on the contrary, the maritime part of Scythia extends generally in an ENE direction, from the mouth of the Danube, to that of the Tanais; forming, not *two* sides of a square, but in effect, *one* side only, of a parallelogram of much greater dimensions: although that side be very crooked and indented.* The length of Scythia along the coast, may be about 430 geographic miles, or 5140 stadia of those of 718 to a degree, whilst he regarded the whole length, as equal to 4000 stadia; say, 330 G. miles. And, as Scythia extended very far beyond the mouths of the above rivers, to the east and west, its length is even much more than double the extent he supposed; as will appear in the sequel. It is true that Herodotus had in idea, a stade of a somewhat shorter standard than 718 to a degree, but the difference is too inconsiderable to merit attention in this place.†

Some of the causes that led to the above errors of Herodotus, are the following:

1. He supposed that the greatest length of the Euxine, 11,100 stadia, (which, however, was 3000 too much,) lay in the line of direction between the Bosphorus and the river Phasis;

* The form and position of the *Krimea*, terminating in a *point* to the *SW*, was probably the cause of the error of making *two* sides out of *one*.

† It has been remarked in page 21, that the stade of our Author is of 732 to a degree, on a mean of all the examples collected from his work: that the 2000 between the Danube and Borysthenes are of 727; whilst those in Greece are much shorter.

2. That the Isthmus of Natolia was little more than half of its actual breadth;

3. That the mouth of the Danube was situated opposite to Sinope;

4. That the Palus Mæotis was nearly as large as the Euxine; consequently in order to get room for it, he must have extended it a vast way to the *north*, and *east*, beyond the truth:*

And lastly, that it lay as much N and S, as E and W: and that the Tanais entered it with a *southerly*, instead of a *westerly*, course.† He calls the *Mæotis*, the MOTHER of the EUXINE; Melp. 86.‡

It is certain, however, that he says, Melp. 17, that "the port of the *Borysthenitæ*, (where, as we learn in 78, stood a Grecian city of *Milesians)* § is unquestionably the centre of *all* the *maritime* parts of Scythia." This seems to do away his former assertion concerning the two sides of 4000 stadia each, washed by the sea; since this port is said by him to be no more than 2000 stadia from the Danube; that is, 10 days' journey of 200 each; Melpom. 101. Here it seems to be the sense of the Author, that by the maritime parts of Scythia, those alone were meant, which bordered on the *Euxine*; which certainly contradicts his former statement. Possibly he might mean, what was true in effect, that the port in question was situated nearly in the centre of the *south side* of Scythia, taken at large.

* It appears in Clio, 104, that Herodotus supposed the distance between the Mæotis (understood to mean, at the mouth of the Tanais) and the river Phasis, to be 30 journies of quick travelling. It may be about 20.

† Strabo thought the same: and both he and Ptolemy that the Mæotis extended N and S.

‡ The ideas of Polybius, lib. iv. c. 5, on this subject, are worthy of attention, as well from the matter of them, as that they serve to explain the ideas of Herodotus, in this place.

There is little doubt but that our Author, as well as Polybius, knew that the Palus Mæotis received more water than it evaporated, and which it gave to the Euxine; the Euxine to the Mediterranean.

§ There were *Milesian* colonies also, at the mouth of the *Danube*, (called *Istrians)* and at the entrance of the *Euxine*.

Be it as it will, the form of Western Scythia, will be found to be nearly a *parallelogram*, whose greatest length, extending along the Danube, Euxine, Mæotis, and Tanais, is at least 9000 stadia; and its depth inland, about 4000, as Herodotus himself allows.

One general effect of the error of our Author in thus shortening, by about one half, the length of Scythia, would necessarily be, to cause all the positions that were adjusted by him, on the *east* of the Tanais, and Mæotis, to recede *westward*, more than they ought, in respect of the sea of Colchis, and the Caspian. To this erroneous calculation amongst other causes, we must therefore attribute the mistake of placing the Issedones (or Yugures,) so far to the west, as to bring them opposite to, or in the same meridian with, the Massagetæ, on the river Jaxartes.

We shall now proceed to the *detail* of the *data*, on which the extent and arrangement of the Scythian provinces, rest.

Herodotus enumerates 8 rivers of (Western) Scythia, of which the Danube is the most western, and the Tanais the most eastern.

The Danube was, excepting the Nile, the largest stream known to Herodotus;* being formed of a great number of others; and he conceived that it underwent no variation in bulk, in summer or in winter;† Melp. 48, 50.

Next to this was the *Tyres*, or *Tyras*, which rising in the north, from an immense *marsh*, divided *Scythia* from *Neuris*. The *Tyritæ*, or *Tyrigetæ*, Greek colonists, were seated near the lower parts of it; Melp. 51.

The 3d river, was the *Hypanis*,‡ springing from an immense lake in Scythia; 52. In the district of the *Alazones*, the streams

* He had never heard of the *Ganges*, or other great rivers of India, and China.

† The description of the Danube and its alluvions, in Polybius, lib. iv. c. 5, is worth attention.

‡ There were other rivers of the name of *Hypanis*. The river of *Kuban* bore that name, which is scarcely altered in its present *sound*.

of the Tyres and Hypanis have an inclination towards each other: but soon separate again to a considerable distance; (ibid.)

As the Hypanis is the 3d in order, of those rivers, and placed next to the Borysthenes, both here, and in Melp. 17, (where it is said to lie to the *west* of the Borysthenes; and to form a junction with it, near the sea,) it can answer to no other river than the Bog; as the Tyres, which immediately preceded it, can be no other than the Dneister.* The circumstance of the near approach of the two, shews how well our Author was informed: for those rivers do really approach very near to each other at Braclaw and Mohilow, in the early part of their courses; and afterwards diverge very considerably, in their way to the Euxine.

The 4th river, and the largest next the Danube, is the *Borysthenes;* Melp. 53. Herodotus was of opinion that this river "was more productive, not only than all the rivers of Scythia, but than every other in the world, the Egyptian Nile excepted. It contained great abundance of the more delicate kinds of fish, and afforded the most agreeable and excellent pastures. Its course may be traced as far as the country of *Gerrhus*,† through a voyage of 40 days, and flows from the north:‡ but its sources, like those of the Nile, are unknown to *me*, as I believe they are to every other Greek;" Melp. 53.

There is some reason to suspect, that our Author was not apprized of the famous cataracts of this river, which occur at about the height of 200 miles above its *embouchure*, and are said to be 13 in number: for he seems to consider the navigation as being uninterrupted, during 40 days upward from the sea.

* The *Dneister* is also called *Turla*, in D'Anville: perhaps the same *root* with the Greek name *Tyres*, or *Tures*.

† Said in Melp. 71, to be the *remote* part of *Scythia*.

‡ Its general course, *throughout*, is nearly south: but its deviations from that line are very great, for it forms a prodigious bend to the east in the Ukraine.

The port of Cherson, (near the embouchure of this grand river,) rendered famous by the marine arsenals, and docks, established by the immortal Catharine of Russia, must be nearly in the same situation with the port of the *Borysthenitæ*, mentioned by Herodotus. These are also named *Olbiopolitæ*.* See Melpom. 17, 18, and 78.

The descriptions of the courses and confluences of the 5th, 6th, and 7th rivers, namely, the *Panticapes*, *Hypacyris*, and *Gerrhus*, Melp. 54, 55, 56, cannot be reconciled to modern geography; and, as far as we can understand, cannot have been of any great bulk. The *Gerrhus* is expressly said to be a *branch* of the Borysthenes, 56; and it is obvious, that, as the other two are described to be situated *between* the Borysthenes and the Gerrhus, they must either have been very unimportant in point of bulk, or branches, of the Borysthenes, or the Gerrhus. As they are said to be "*navigable to the sea*," and "amongst the most celebrated of the Scythian rivers," Melpom. 47, it is the most probable that they were branches of the *greater* river Borysthenes, which, like many others, discharged itself by several mouths. Some little light will be thrown on these particulars, when we speak of the subdivision of Scythia.

The 8th river is the *Tanais*; in modern European geography, the Don; and cannot be misunderstood.† "Rising (says our Author) from one immense lake, it empties itself into another still greater, named the Mæotis; and is increased by the waters of another river, called the *Hirgis*;" Melpom. 58. It may however admit of doubt, whether the lower part of the river *Donetz*, which joins the Don, may not have been confounded by the early geographers with the Don itself; since this latter takes so remarkable a turn to the east: and

* Pliny says that the *Hypanis* joins the *Borysthenes* at *Olbia*; lib. iv. c. 12.

† The modern name *Don*, seems to be a corruption of *Tana*, the proper name of the river, as well as of a city, which stood on, or near, the site of *Azoph*; and not far from its *embouchure* in the Palus Mæotis. *Tana*, is obviously the same name with *Tanais*.

as the former is a very large stream, and also occurs in a position, where the Don itself, considering its general course, would be looked for, by those who came from the west.

The Tanais does indeed spring from a lake, but it appears to be a very small one; and is not even marked in the Russian maps. Le Brun, who visited it, says, " the small lake *Ivan* is not far distant from the village of *Ivanosra*. The river *Don*, or *Tanais*, has its source in this lake, and from thence flows in a long canal, the water whereof is exceedingly clear."—He afterwards says that it is more properly a *pool* than a *lake;* Vol. i. ch. 12.

Le Brun also says, that an inland navigation from the Mæotis and Euxine, to the Baltic sea, by the medium of the rivers *Don*, *Wolga*, *Twersa*, &c. was not only projected, but begun, by the Czar PETER the GREAT, in 1702: and which, had it been finished, would also have joined the Euxine to the Caspian; since the Caspian and Baltic are known to be so completely united, that boats proceed uninterruptedly from Petersburgh to Astrakan; said to be a voyage of nearly 2300 British miles.

The Don and Wolga were to have been joined by means of a canal *through* the lake *Ivan;* the waters of which were made to flow into the little river *Sohata*, which flows into the *Upa;* this latter into the *Okka;* and the *Okka* into the *Wolga*. So that the waters of the lake Ivan, ran two different ways; and in this state of progress, it appears, Le Brun saw the work, in 1702: but it does not seem ever to have been completed.

The inland navigations of RUSSIA, as well as of CHINA, are on a scale that is commensurate to the extent of those vast empires. Not that they are so much the effect of *political* geography, which has subjected to one dominion, the courses of so many large and nearly contiguous streams, and thereby removed the obstacles which commonly arise, from the contending interests of adjoining states; great as these advantages are; as of the *physical* geography,

which has thrown the fewest obstacles possible, in the way. But it may well be, that the absence of such obstacles, may have gone towards forming the present system of political geography.

To return to the geography.—The eight streams abovementioned, are declaredly exclusive of the *branches* of the Danube and Tanais: for Herodotus enumerates several of the former, which have their sources in the western quarter of Scythia; as well as of the latter, amongst the Thyssagetæ, on the north-east. These notices afford so much assistance towards fixing the western limits of Scythia; and of the position of the Thyssagetæ on the east, that it will be proper to examine them in detail.

"The *Porata*, (so called by the Scythians, by the Greeks *Pyreton*) the *Tiarantus*, *Ararus*, *Naparis*, and the *Ordessus*, are five streams which particularly contribute to increase the size of the *Danube*; and all *have their rise in Scythia*;" Melp. 48. M. D'Anville recognizes the *Porata* in the *Pruth*; the *Ararus* in the *Siret*: the *Naparis* in the *Proava*,* and the *Ordessus* in the *Argis*: but the *Tiarantus* he has not made out.† However, as our Author says, Melpom. 48, that it has an *inclination* to the *west*, and is smaller than the *Porata*; as also that the three others take their courses *between* these two, it appears that the *Olt* or *Alut* should be meant for the *Tiarantus*. The Olt, however, has its source in *Transylvania*, which the context evidently allots to the *Agathyrsi*; but it is certain, notwithstanding, that its source is on the *borders* of Scythia: and, as it is probable that our Author had not a critical knowledge of the geography, the expression ought not to be taken too literally, when he says that ALL these rivers have their rise IN Scythia.

* Called also *Jalomnitza*.

† It cannot be meant for the *Tibiscus*, or *Teisse*, for in the succeeding chapter (49,) it is enumerated amongst other adjuncts of the Danube, under the name of *Tibisis*; although by mistake, it is made to descend from Mount *Hemus*, instead of the *Bastarnian Alps*, in the opposite quarter.

From hence then, may be collected, that Scythia extended *westward* to the upper part of the course of the river *Argis*, in *Walakia*; and also along the course of the Danube, upwards, to the *great bend* near *Dristra (Durosterus)*; for the commencement of its oblique course, by which it enters Scythia, (according to our Author, Melp. 49,) is about that place; and the *embouchure* of the *Ordessus* but a little higher up. Consequently, Scythia must have included the eastern part of the province of Walakia: and as it extended 20 journies (of 200 stadia each) inland, the entire province of Moldavia also, to the sources of the *Porata* or *Pruth*.

The *Tyres*, which, from more than one circumstance, has been proved to answer to the *Dneister*, is said to have divided *Scythia* from *Neuris*, Melp. 51. And it will be found, that, allowing to Scythia a breadth of 20 journies, or 4000 stadia (according to the text) inland from the coast of the Euxine, this particular respecting the Tyres agrees very well: and hence the Neuri, who are also said, Melp. 17, to dwell near the Hypanis (Bog), must have possessed that part of Poland, heretofore called the *Palatinate* of *Russia*; and part of that of *Lusuc*; now composing the eastern part of GALLICIA. Of this, more in the sequel, when we speak of the nations, or tribes, that are situated along the *borders* of Scythia.

By this arrangement it will appear also, that *Podolia*, or the principal part of it, must also have constituted a part of Scythia.

Proceeding farther to the east, it will be found, that the distance of 20 of the like journies, inland from the Euxine, at the part near the mouth of the Borysthenes, will extend the limits of Scythia upwards, beyond the *forks* of that river. By the *forks*, are meant the places of confluence of the *eastern* and *western* branches, the *Dnesna* and *Prypetz* (and more particularly the latter) with the northern, or *proper Borysthenes*; which collective waters form the main trunk of that magnificent stream, which divided Scythia in the midst. For the above distance of 20 journies, or 4000 stadia, is given, in Melp. 101, between the sea and the borders of the

Melanchlæni, a tribe which adjoined on the *north*, to those Royal Scythians, who touched on Taurica, the Mæotis, and Tanais; Melp. 20, and 57. Consequently, Scythia may be supposed to have extended northward to the river *Dnesna* and its eastern branch, the *Sem*, on the *east* of the Borysthenes; and to *Polish Russia*, on the *west* of that river: wherefore WOLYNIA; the proper UKRAYNE; the country of BIELGOROD, &c. must have formed the northern frontier of Scythia; on which side, it was bounded by the tribe of ANDROPHAGI, on the side of Poland, and by the MELANCHLÆNI on that of Russia: as on the NW by the NEURI, and on the west by the AGATHYRSI.

On the north-east, the Tanais separated the Scythians from the BUDINI, and GELONI. The SAUROMATÆ, or SARMATIANS, lay to the east; but whether they occupied both banks of the Tanais, above the conflux of the Donetz, or whether the Scythians possessed that Peninsula formed by the Don and Donetz, is a matter of doubt; and must be left for the reader to determine for himself. We, however, regard the former as the most probable.

Thus the Scythia of Herodotus appears to have extended in length from Hungary, Transylvania, and Walakia, on the WEST, to the river Don on the EAST; a space of full 750 G. miles, or more than 860 B. miles: but if the Donetz is to be taken for the eastern boundary, then 612 G. miles, or 710 B. miles only. Its breadth is taken on the statement of Herodotus, at 4000 stadia, equal to 300 or 330 G. miles, which extends it, as we have seen, to the heads of the rivers Pruth and Dneister, to the forks of the Borysthenes, and the course of the Dnesna, at large. But the length allowed to Scythia by him, is little more than $\frac{2}{3}$ of the space between the *mouths* of the *Danube* and *Tanais*, alone; beyond which, Scythia extended very far, because those rivers formed its boundaries, and their courses were very oblique. And, on the whole, he appears to have allowed to Scythia, considerably less than half the true quantity of the area, taking his own statement of the

boundaries. For the 750 G. miles produce about 9000 stadia of our mean scale; whilst our Author allowed the length and breadth of Scythia, to be 4000 stadia only; and as we have already admitted the breadth to be as he describes, the form and dimensions of that country will be a parallelogram of 9000 stadia by 4000, instead of a square of 4000.*

Subdivision of Scythia.

It is by no means an easy task to place the different tribes of Scythians, described by our Author: but we shall endeavour to place the principal ones. It may be proper, first of all, to observe, that the *Tauri*, who inhabited the *Cimmerian Chersonesus*, or Krimea, one of the most prominent features of the geography of this tract, were not reckoned to belong to Scythia. See Melpom. 102.

* Baron Tott allows the following extent to the tract, which he names LITTLE TARTARY; and which may be regarded as the ancient MARITIME SCYTHIA.†

It includes the Peninsula of the *Krimea*, the *Kuban*, a part of *Circassia*, and all that territory which *separates* the *Russian empire* from the Black sea. (This was written previous to the cession of the Krimea, &c. to Russia.) This zone, extending from *Moldavia* to the neighbourhood of *Taganrok*, is 30 or 40 leagues broad, by 200 in length, or about 530 G. miles. It contains from E to W, the *Yetitche-Koule*, the *Jamboylouk*, the *Yedessan*, and *Bessarabia*. The latter province, called also *Boudziak*, or *Boudjack*, is inhabited by Tartars settled in villages, as well as those in the *Peninsula;* but the inhabitants of the three other provinces have only tents made of felt, which they remove at pleasure. He afterwards excepts those *Nogais*, who are settled in the long vallies of the *Yedessan*, between the Dneister and Borysthenes, beforementioned: in page 51.

Mr. Tooke (Russia, Vol. ii. p. 71) allots to the *Nogayan* Tartars, the tract between the Danube on the west, and the lower part of the Wolga on the east; and bordering southward on the Euxine, Mæotis, Mount Caucasus, and the Caspian. This, of course, allows them a much wider range, than the limits assigned them by the Baron, who perhaps took only a partial view of the subject.

† It may be proper to mention that, as all the references made to Baron Tott's book, are contained in his 2d Part, on the subject of the Turks and Tartars, it will be unnecessary to refer to it, in the sequel.

I. HYLÆA was the name of the Peninsula adjacent to *Taurica*, on the NW; formed by the lower part of the Borysthenes, the Euxine, the gulf of Carcinitis, and the river Hypacyris, which flowed into it. It is now named *Jamboylouk*.

This tract, unlike the rest of *maritime* Scythia, had trees in it; Melpom. 19. This circumstance is not only confirmed by Pliny, lib. iv. c. 12, who calls it a *woody* country, but by the testimony of Baron Tott in modern times, which is very satisfactory.

The Baron, having crossed the mouth of the Borysthenes, from *Otchakow* to the point of *Kilburn*, traversed the great plain of *Jamboylouk* (inhabited also by the *Nogais,)* to *Orkapi* or *Perekop*, the fortress which shuts up the Isthmus of the Krimea; which plain is precisely the HYLÆA of Herodotus; and is nearly 100 English miles long, in this direction. The Baron thus describes it:

" The road which we took, brought us near the Black sea; and in following the beach from time to time, the very noise of the waves afforded us a more interesting object, than we could find in the *naked plains* over which we had been passing. Those we still had to pass, were likewise entirely bare, *although I have been assured that they were formerly covered with forests,*" &c.

The province of *Hylæa* was also remarkable for its containing a flat tract of a very singular form, which projected into the sea, called the *Course of Achilles;* and moreover for being the scene of the story of Hercules and the monster Queen of Scythia, when he had driven away the oxen of Geryon. The river Panticapes passed *through* Hylæa, in its way to the Borysthenes; and the Hypacyris bounded both this territory, and the just-mentioned tract, called the Course of Achilles. This is the substance of our Author's descriptions, in Melpom. chapters 8, 9, 10, 18, 19, 54, and 56. And hence the Hypacyris appears clearly to be the river Kalauczac, which passes by the modern town of Kammenoimost, which is perhaps, nearly in the position of *Carcinus*. We shall find the same river recognized by Pliny and Ptolemy, in the sequel.

The geography of this whole tract is very strongly marked, as will appear by a reference to the Map No. III. and more particularly to Dezauche's Map of the Krimea. In this, the Course of Achilles is also recognized, in two long and exceeding narrow slips of land, named *Tentra*, which extend in opposite directions into the sea, forming together the shape of a sword, or scymetar, agreeing to the description of Pliny, lib. iv. c. 12, who says that the *Dromos Achilleos* was a Peninsula extending into the sea, in the form of a *sword*, and was 80 MP. in length. It is 62 G. miles, equal to 77 MP. on the map. Ptolemy describes it much the same, *Europæ*, *Tab.* VIII.

Strabo is very pointed and particular in his description of it, pages 307, 308. He reckons it 1000 stadia in length, which is much too long: but he seems very exact in representing it to be only 2 stadia in breadth, at the widest part; and to extend from east to west. How this remarkable tract came to be named from Achilles, is not told.*

Baron Tott passed near, if not *through*, a part of it, in his way from Otchakow to Perekop, at the time when he describes the naked plains, little elevated above the margin of the sea. By appearances, it has been in part, formed of alluvions of the Borysthenes and its branches; of which the Hypacyris, which bounded it on the east, was probably one.

II. The Scythian HUSBANDMEN, or PLOUGHING Scythians; (called also *Borysthenitæ*, and *Olbiopolitæ;)* were situated adjacent to the Borysthenes; Melpom. 18, 53, 54. They extended from 11 to 12 journies up the river, from Hylæa; particularly on the east side: and to the distance of three journies eastward from the river;

* From these descriptions one may collect, that they had seen a delineation of the ground: and indeed many ancient notices plainly shew that the ancients were in the habit of making maps and plans; although these have not, like their books, generally reached us; which may be owing in part, to there having been fewer copies made, and that they were, perhaps, more subject to accident, than books.

where they were bounded by the Panticapes. This last river, however, cannot be recognized in modern geography, since no river is known to pass through the site of Hylæa, in its way to the Borysthenes, as described in Melpom. 54. We have already hazarded a conjecture, that this, as well as the other rivers of this quarter, were branches of the Borysthenes: some of which, probably, have been since filled up by the depositions of its waters.

It would appear from Melpom. 53, that the Borysthenitæ dwelt also on the *west* side of the Borysthenes, near its mouth, as far as the influx of the Hypanis (Bog).

III. The SCYTHIAN NOMADES; Melp. 19, 55, 56. These lived to the eastward of the Husbandmen, and beyond the river Panticapes, said above to pass at the distance of 3 journies to the eastward of the Borysthenes.* These Nomades *are said* to inhabit a district of 14 journies towards the east, and as far as the river *Gerrhus:* but the number 14 is an error, at all events: first, because the Royal Scythians, who are divided from the former, by the river Gerrhus, join southward to the district of Taurica (Krimea); Melpom. 20; which begins at the Gulf of Carcinitis, Pliny, lib. iv. c. 12; and therefore cannot be *many* journies removed from the Borysthenes. Secondly, because the Hypacyris, which bounds Hylæa on the east, passed through the midst of the Nomades, in its way to Carcinitis; Melpom. 55. Neither of these circumstances could have taken place, had the Nomades extended 14 journies to the eastward of the Husbandmen; that is, 17 to the east of the Borysthenes. Moreover, it would not have left room for the Royal

* Pliny, lib. iv. c. 12, agrees with Herodotus, that the *Panticapes* divides the Nomades, from the Husbandmen, Scythians. Ptolemy's *Hypanis*, Europæ, viii. on the *east* of the Borysthenes, appears to occupy the place of this Panticapes.

It is difficult to judge what the course of the Panticapes was, and where it joined the Borysthenes, but there can be little doubt, as has been said, that it was one of its branches.

Scythians, who are said to be the *most numerous* tribe of Scythians; Melp. 20.*

Whether it be, that Herodotus was not correctly informed, or that the rivers have undergone a change in their courses, during the long interval of near 23 centuries, it is certain that the modern geography of the country, set forth by its present possessors, the Russians, does not present any such series of rivers as the Panticapes, the Hypacyris, and the Gerrhus, in the *like positions*, and under the *like circumstances*. But, it is very true, that the maps which enter most into the detail of this country, represent the tract in which we should look for these rivers, to be full of stagnant lakes and pools, in which the courses of creeks terminate from the north; so that it may be suspected that the Borysthenes, and its branches, have *wandered* through this space in different ages of the world; and, in consequence, may have at times, gained the sea by different mouths; and occasionally by more than one, at the same period of time. There is a very strong circumstance mentioned by Pliny, lib. iv. c. 12, where, after saying that the *Taurican Chersonesus* begins at *Carcinus*, he proceeds to say, that "it was anciently *environed by the sea*, in the part where the ground is

* Pliny has a river *Pacyris*, which must be taken for the *Hypacyris*, as he conducts it into the gulf of *Carcinitis*; lib. iv. c. 12. Ptolemy, Europ. viii. names the river, as well as the gulf which receives it, *Carcinitis*: but places the town *Pasiris*, on its banks.

Pliny, moreover, speaks (in the same place) of a river *Hypanis*, which passes between *Hylæa* and the Nomadic Scythians; and afterwards discharges itself into *Coretus*, a gulf of the Palus Mæotis: probably intended for the NW bay of it, as the lake of *Buges* is said to join it: for this lake appears in Ptolemy to answer to the Muddy lake, or Siwasch, which shuts up the Krimea towards the north. We conceive there is an error in Pliny respecting *this Hypanis*, and its connection with the Coretus: and that, as it passes between the Hylæans and Nomades, that the *Hypacyris* is really intended. So that he had probably confounded Hypanis, Hypacyris, and Pacyris, together, as well as *Carcinitis*, and *Coretus*.

flat;" which flat country seems evidently to be the tract above-mentioned, on the north of, and adjacent to, the Krimea. And indeed, reasoning from analogy, nothing is more likely than that a great change should have taken place, in the course of so vast, and so rapid a river as the Borysthenes; and which also flows through a deep alluvial country. It may be observed on the Map, what a vast *elbow* it makes to the east, in the lower part of its course. Hence, considering other circumstances, it is probable that at some former period, it ran *straight* from the Cataracts into the western part of the Mæotis; and that, having in a course of ages, raised the ground too high, to make its way through, it sought a lower bed in the west, but left a *branch* in the former one (which it might do, although its bed would not contain the whole river); and *this* branch may have been the *Gerrhus*, which, Herodotus says, was really an emanation of the Borysthenes. Melpom. 56. Instances of such changes, are by no means unfrequent in other places: and, it is pretty certain that the *Deltas* of all rivers are formed in this way.*

It may be added, that, the reports of those who have visited that country in latter times, confirm in the strongest manner, the idea, not only of a change of course of the Borysthenes, and Dneister, but of a still greater change in the face of the country between the

* Much light is thrown on these subjects in a series of Maps of the Rhine, by M. Wiebeking of Darmstadt; a part of which were published in 1796, and seem to be the most useful of the kind that have appeared. In these, the changes in the course of the river, are traced with precision, and the dates marked: and the works erected in certain parts, to prevent the destructive effects of the stream, are described. They cannot but be highly useful to those whose business requires that they should be well versed in the nature of river currents and alluvions.

In the Appendix to the Memoir of the Map of Hindoostan, 1793, there will also be found, under article Ganges, many remarks of the above kind; all tending to prove the vast and rapid changes that take place in the beds of rivers, as well as the rapid increase of *alluvions*.

Borysthenes and the sea; in effect, giving strength to an opinion that the Peninsula of the Krimea from the original state of an island, has been joined to the main land, either by a general subsidence of the level of the Euxine, or by the depositions of the Borysthenes; or possibly, by both these causes combined.*

The reports alluded to, are particularly those of M. Pallas, and of the Baron Tott. The former says, in the work above quoted, page 1, "That the Peninsula of *Taurica*, which rises with an abrupt ascent to the height of 1200 feet, on the south side towards the Euxine, sinks by degrees towards the continent, and at last with so easy a slope, as to lose itself insensibly in the great plain, of which the adjacent country on the north, is chiefly formed; and which plain is but little elevated above the level of the sea." In page 19, he says that the same plain seems as if it had once been covered by the sea; as well as the desert between the Borysthenes and the *Berda*, which last is a river that flows into the Mæotis about midway between the Krimea and Azoph. He also supposes that the salt lakes, with which the plain is strewed, were once bays of the sea, whose mouths being first shut up by bars of sand, thrown across them by the surge of the sea, were finally separated by the subsidence of its level, when, by the rupture of the ground at the Bosphorus, and Hellespont, the Euxine discharged its upper level of water into the Ægean sea.

He accounts (p. 20) for the formation of the lake of *Siwasch* (or the *muddy* lake,) much in the same manner, by the matter

* It has so often happened that islands have been joined to the sea by alluvions, as well of the *sea*, as of *rivers*, that the former cause alone is sufficient to produce the effect. Herodotus himself gives one instance in the junction of one half of the *Echinades* with the continent, by the alluvions formed by the river *Achelous* in *Acarnania*. Euterpe, 10. Others, near Ephesus, have been joined by the *Cayster*; the island of *Pharos* also with the main land of Egypt; so that the *modern* Alexandria stands on the alluvion itself. The instances are very numerous.

thrown up by the waves of the Mæotis, occasioned by the prevalent strong winds at east and north-east.*

Thus the opinion of M. Pallas, is at least, in favour of a *great change* having taken place, in the tract between the Borysthenes and Krimea: which opinion, as we have seen, agrees exactly with the report of Pliny, more than 17 centuries ago. But we are of opinion, that more appearances are yet to be accounted for; and that the courses of the creeks from N to S, across the same plain, and which terminate in lakes; together with the vast surface of mud, and muddy lakes, spread over the eastern part of the Isthmus; can only be accounted for, by the presence of a large fresh-water river: and that river can hardly be supposed to be any other than the Borysthenes, which in our idea, formerly gained the sea at the western part of the Mæotis; and having gradually raised the level too high, for it to run on, retired westward in search of a lower level. This progress of things must of course have been posterior to the subsidence of the Euxine.

The notices furnished by Baron Tott are by no means unworthy of attention, although arising from a more confined view of things. He mentions the remarkable lowness and flatness of the ground, in front of the Isthmus of the Krimea, and indeed all the way from the Borysthenes; though without hinting any idea of any change

* Appearances seem to prove, that the limits of the Mæotis have been much circumscribed; and its bed, of course, in part filled up, by the depositions of the Tanais, Borysthenes, and other rivers. The large chart of that sea (drawn since 1773,) points out many banks and tongues of land, that have evidently been formed, as well from the currents, generated in the sea, by the discharge of the Tanais, (and which run along the north coast, and thence to the S and SE to the Strait of *Jenicale,)* as by the river currents themselves. It was the idea of Polybius (lib. iv. c. 5.) that the filling up of the Mæotis, was no very remote event, in his time. The operation, however, is so slow, that it may reasonably be deemed a very remote event, at present, although nearly 2000 years have elapsed, since the date of his prediction. He had an idea that it was not much more than 15 to 20 feet deep, generally: but it is at present more than 30; and in the deepest parts 40 to 48.

having taken place. He says, that the Isthmus itself, across which the *lines* of Perekop are drawn, (and which extend about $\frac{3}{4}$ of a league,) is a plain; but overtops the plain *without*, by about 40 feet; however, that it joins with so gentle a slope, as if formed artificially. Hence the alluvion must be supposed to terminate with the lower plain.

It has been before remarked, that he describes the Plain of *Yedessan*, between the Dneister and Borysthenes, as a perfect level, save only the ravines or vallies which contain the muddy rivulets, terminating in lakes; and which may probably be the ancient channels of rivers; perhaps of the Dneister, or the Bog. And as he describes such a country likewise, between the Borysthenes and the Tanais, in which the detailed maps describe the same kind of creeks and lakes; it is very possible, not to say probable, that other rivers have wandered *there* also.

After this very long dissertation, we return again to the subject that gave rise to it, the course of the *Gerrhus*, and the other rivers of this part of Scythia.

It is proper to note a circumstance in which our Author differs from all others; and in which, the reason of the thing seems to shew that he was wrong. He says, Melpom. 56, that the *Gerrhus* finally *joins* with the *Hypacyris*. Now, this *latter*, is allowed on all hands to pass through the country of the Nomades, and to discharge itself into the *Carcine* gulf, which washes the *west* side of Taurica; whilst the Gerrhus *separates* the *Nomades* from the *Royal Scythians*, and is described by Pliny and Ptolemy* to enter the Palus Mæotis, which shuts up Taurica on the *east*. It is difficult to comprehend, how the Gerrhus, which forms the boundary between the Nomades and Royal Scythians; which Nomades also lay to the east of Hylæa, and the Husbandmen; could fall into the gulf of Carcinitis, with the Hypacyris!

A river, or rather several beds of rivers, whose courses fall in

* Lib. iv. c. 12: and Europæ, Tab. viii.

nearly together, are found in the position, where the Gerrhus may be looked for; but they have at present, no communication with the Borysthenes, and only one of their branches, with the Mæotis: for they terminate in a long and narrow lake, named *Molocznoe*, very near the western part of the Mæotis, and opposite to a wide gulf, which enters deeply into the land, and appears in ancient times to have joined to the lake; when both together may have formed an *estuarium*, pointing to the north. Either of the above-mentioned branches may have been the *Gerrhus*: but the one that may, from its direction, be more particularly taken for it, is named *Tasczenac*.

The termination of these branches, at the Mæotis, is at 150 G. miles to the east of the mouth of the Borysthenes; though less than 80, from the nearest part of its course. Perhaps then, *four* journies should be read, instead of *fourteen*, for the extent of the *Nomades*, eastward from the *Husbandmen* (see page 65); which will allow 7 journies, at a medium, for the breadth of the tracts occupied by the two, collectively.*

IV. The ROYAL SCYTHIANS; Nomades *also*, but of a higher order.

These, as we have seen, bordered on the Nomades, properly so called, westward; and on the Tauri southward: and they are said, Melp. 20, to have spread eastward as far as the Tanais, northward to the Melanchlæni, 20 days' journies, inland. These were the most numerous, as well as the most noble, of the Scythian nation;

* The course of the Gerrhus appears clear enough in Pliny and Ptolemy. Pliny agrees with Herodotus, in making it the boundary between the Nomades and Royal Scythians; and with Ptolemy in conducting it finally, into the Mæotis; the difference only is, that Pliny leads it into the lake *Buges*, which communicates with the gulf *Coretus* and the Mæotis; whilst Ptolemy leads it wide to the east of the lake Buges, or Byces. Both of them have also a river of Buges, but they differ in the place of its *embouchure*, exactly as they do concerning that of the Gerrhus.

They have also a 3d river, which is named *Acesinus* by Pliny, *Axiacus*, by Ptolemy; but which is not found in our Author.

and they regarded all the rest of their countrymen as their slaves; Melp. 20. According to these notices, the Royal Scythians, who may be considered as the great body of *freemen* of the nation, occupied the tract generally, between the Mæotis on the south; the Tanais on the east; the river Gerrhus, and the Nomades on the west; and the river Desna, and its eastern branch, on the north. They had the Melanchlæni, for their northern neighbours; the Budini and Geloni, on the NE; and the Sauromatæ on the east. We shall now turn to the *west* of the Borysthenes.

V. The CALLIPIDÆ, Melp. 17, *Callipodes* of Solinus, appear to have occupied the lower course of the Hypanis; and are called *Greek Scythians*. Beyond these, between the Hypanis and Tyres, were,

VI. The HALIZONES.* Both of them were agricultural people. In Melp. 52, it is said that in the district of the *latter*, the courses of the Tyres and Hypanis incline towards each other, but soon separate again to a considerable distance. From this circumstance, the Halizones must be placed in part of Padolia and Braclaw. See above, page 55.

VII. Beyond the Halizones, was another agricultural tribe, not named, Melp. 17; and who must have inhabited the frontier of Scythia, to the NW; as the Neuri are said to lie next beyond them, towards the north.

VIII. The TYRITÆ (perhaps *Tyrigetæ*)† were reckoned a *Greek* colony, and inhabited the tract at the lower part of the river *Tyres*; *(Dneiper.)* Melp. 51.

The inhabitants of the countries on the west of this river, although classed in a general way, as Scythians, are not particularized by Herodotus.‡ Some authors reckon these to be *Getæ*;

* *Alazones*, in 52. † See Pliny, lib. iv. c. 12.

‡ Baron Tott, as we have shewn, found the country on the west of the Borysthenes, possessed by a pastoral people; and it is highly probable, from the nature of the country, that the same habits prevailed there anciently. Nor is this any impeachment of

but Herodotus appears to confine the *Getæ* to the south of the Danube. However, as the term Getæ may perhaps with propriety be applied to Scythians in general, there might be no great error in the application of it.

On the reported Origin of the Scythian Nation.

Thus, having enumerated the different tribes of Scythians, we shall next give a few particulars respecting these remarkable people, from our Author, and others.

As to the fabulous accounts of the origin of the Scythians, they merit little attention as matters of history; but there are certain accordances, in respect of names, with the modern traditions amongst the inhabitants of Western Tartary, that appear remarkable.

The Scythians, according to Herodotus, Melp. 5, 6, 7, say, that the first patriarch and king of their country, was *Targitaus*, 1000 years before the invasion of Darius Hystaspes; (or about 1500 before Christ). That he had three sons, from whom the four tribes of *Anchatæ*, *Catiæri*, *Traspies*, and *Paralatæ* are descended. The *Paralatæ* were the descendants of the *youngest* son,* who became king of Scythia; but these people were named more commonly *Scoloti*, from a *surname* of the king. The Greeks called them SCYTHIANS; Melp. 6.

NOW, it is well known that amongst the Orientals, TURK, the reputed son of JAPHET, is reckoned the patriarch of the tribes of Turkestan and Tartary; as also that his original settlement was in TURKESTAN, that is, the country situated *along*, and *beyond*, the river Jaxartes.

The Targitaus of Herodotus, has, in its root, some affinity to

our Author's accuracy; for the agricultural tribes above recorded, were situated very high up the country. The *Yedessan* tribe (of Tott) appear to occupy the place of the *Callipidæ* and *Tyritæ* of Herodotus.

* Diodorus, lib. ii. c. 3, calls the ancestor of the *Palians*, who seem to answer to the *Paralatæ*, *Palus*; and reckons him the son of Jupiter. With Herodotus he is the grandson.

the name Turk; as that of the Paralatæ, the tribe descended from the youngest son of Targitaus, has to Perlas or Berlas, which designed the tribe last in rank, of those descended from Turk. Targitaus was said to be the son of Jupiter; Turk of Japhet. See D'Herbelot, article *Turk*.

Herodotus gives two different accounts of the original settlement of the Scythians, at the Euxine; and which, whether in their circumstances, true or otherwise, serves to shew that the Greeks regarded them as new settlers in that tract.

The first story is, that "the *Scythian Nomades* of *Asia*, having "been harassed by the *Massagetæ*, in war, passed the *Araxes*, and "settled in *Cimmeria*; for it is to be observed, that the country "now possessed by the Scythians, belonged formerly to the Cim-"merians.—There are still to be found in Scythia, *walls*, &c. "which are termed *Cimmerian*; the same name is also given to a "whole district, as well as to a *narrow* sea."* Melpom. 11 and 12.

* The district in question, may be supposed to have been the *Chersonesus* of *Taurica (Krimea)*; and the narrow sea, the *Bosphorus* of the *Cimmerians*, which is mentioned by name, in Melpom. 100.

How much of Western Scythia, the Cimmerians might have occupied, is unknown; but it may be inferred from a circumstance mentioned in Melpom. 11, that their possessions extended westward, at least to the river *Tyres*, or *Dneister*.

Respecting the *walls*, &c. still found in the time of Herodotus, under the name of *Cimmerian*, he does not say that they were in the *Peninsula*, but the context implies it: and it is not improbable that he had seen them. Baron Tott saw in the mountainous part of the Krimea, ancient castles, and other buildings, a part of which were *excavated* from the *live rock*; together with subterraneous passages from one to the other. These were, he says, always on mountains difficult of access. He refers them to the *Genoese*, with what justice we know not; it is possible *they* might have made use of them: but it is more than probable that these are the works alluded to by our Author: for, it may be remarked, that works of this kind, are commonly of very ancient date.

It appears, that the nature of *part* of the remains, mentioned by Herodotus, cannot, from a corruption of the text, be understood. Some have supposed that *bridges* were intended; others *gates*: may they have been the *subterraneous passages* above-mentioned? or, can it allude to a fortified line, and bridge across the Isthmus, as the former of these existed in very early times?

The second story is from Aristeas, the poet, a native of Proconnesus, who relates, that " under the influence of Apollo, he came " to the Issedones; that beyond this people he found the Arimaspi, " a nation who have but one eye; farther on, the Gryphins, the " guardians of the gold; and beyond these the Hyperboreans, who " possess the whole country quite to the *sea*: and that all these na- " tions, *except* the Hyperboreans, are continually engaged in war " with their neighbours. Of these hostilities, the Arimaspians " were the first authors, for that they drove out the Issedones, the " Issedones the Scythians: and the Scythians compelled the Cim- " merians, who possessed the country towards the south, to aban- " don their native land." Melp. 13.

Of these accounts, Herodotus says, that he is more inclined to believe the first, than the story of Hercules and the monster Queen of Scythia, above alluded to; and of the second, that " *it had obtained credit*, both with the Greeks and Barbarians." He then proceeds to give a short history of Aristeas, and his Arimaspian verses, in which it appears, he confessed that " he had not penetrated beyond " the *Issedones;* and that what he related of the countries more " remote, he learnt of the Issedones themselves." Melp. 14, 16.

It may be observed, that the first account makes the Massagetæ to be the people who drove out the Scythian Nomades of Asia, to seek a new country, in the *west:* by the other, the Arimaspians drove out the Issedones, who were situated next to them; and who in turn, impelled the Scythians westward to the Euxine; where they dispossessed the Cimmerians.

In either case, the question is, who were the Scythians thus dispossessed, and in what country was their original settlement?

Whether the cause of migration might have been dread of conquest, want of room, or of pasturage, or any other matter, the events of more recent times may convince us, that such migrations have frequently happened: and we may quote in particular, the famous migration of the *Kalmucs* in 1770, 1771, when they re-

moved, (or rather took flight) from the west of the river *Wolga* to the *Balchatz* lake; (called also *Palkati Nor*,* and lake of the Kalmucs,) a march of even greater length than from the *Jaxartes* to the *Mæotis*.†

But besides this instance, there is every reasonable testimony of the migrations of the Turks and Tartars westward, in all ages: so as even to change the population of the southern countries of Europe and Asia. Indeed, in the present instance, as well as in some few others, in recent times, the western countries appear to be too fully stocked, for the purposes of *Nomadic* life; so that the tribes of this description, begin to recoil *eastward* again.

To return to the Scythians of Herodotus.—It will appear, when the countries on the east of the Mæotis and Tanais are described, that he speaks of a nation of Scythians, who, according to the circumstances of the description, should have occupied the *Desht Kipzak*, at the head of the Caspian sea, together with a large proportion of the Steppe, now in the possession of the Kirgees tribes: and these he styles the SCYTHIANS who had SECEDED from the ROYAL SCYTHIANS, at the Mæotis; Melp. 22.

It is obvious, however, that if this statement was true, the country assigned by our Author to the Massagetæ, on the borders of the Jaxartes, (and Aral, taken by him and others for part of the Caspian,) would be confounded with the space assigned by him to the *seceding* Royal Scythians; and which error, from his incorrect ideas of relative position, he might not be able to detect. Either then, he erred in extending the lands of these Royal Scythians, too far to the east, or he has confounded them with the Massagetæ. And as he wrote from the information of others; and perhaps also, from very vague notices; it is not altogether improbable that the Royal Scythians might be a tribe of the same nation with the

* *Nor* signifies lake, or sea.

† The numbers were said to be 55 to 60 thousand families; perhaps 350,000 persons. (Mr. Tooke.)

Massagetæ at the Jaxartes: in which case, the story of Aristeas which makes the Issedones to drive the Scythians westward, would be more probable than the other story, of the Massagetæ driving out the Scythians; since the Massagetæ and Scythians would be tribes of the same nation.

At all events, the Royal Scythians at the Euxine, and those, who from the description of Herodotus, are placed in the Desht Kipzak and Steppe, are confessedly of the same nation: the doubt remaining is, whether they occupied likewise the seats of the Massagetæ? The Desht Kipzak indeed may have been their *original seat*, in which either a *part* of the nation remained at the first migration; or to which a colony might *return*, after the nation was settled at the Mæotis. The Kalmucs in their late migration, did no more than *return* to their former seats, near the Palkati Nor.

It is a question, which perhaps can never be *determined*, whether the Massagetæ, or Scythians of the Jaxartes, and those of the Euxine, were of the same stock; but it appears highly probable that they were: and the seeming doubt of our Author, whether he should class the Massagetæ with the Scythians, Clio, 201, 215, 216, furnishes, in our idea, some proof of it. The similitude in point of manners and customs between them, gave occasion to the ancients (though at a somewhat later date than the time of Herodotus,) to apply the name of Scythians to the Massagetæ, with whom they became later acquainted. We confess, that we cannot help regarding these notices on the whole, as tending to a proof that the Massagetan Scythians were the most ancient of the two, and probably the ancestors of those at the Euxine. The story of Targitaus seems to respect *Turkestan*, rather than *Euxine Scythia*; and Targitaus, if meant for Turk, should have been the common ancestor of all the Scythians.*

* Diodorus, lib. ii. c. 3, derives the *Massagetæ*, *Sacæ*, and *Arimaspi*, from the same *Scythian* stock; which Scythians were first settled at the *Araxes* (no doubt

It is unquestionable that there is a great similarity in many of their customs; and which can only be referred to *imitation*. We shall enumerate a few of them.

Not to mention the Nomadic life common to both, since it might also have been followed by others in North Asia, we shall only observe,

1. That the *clothes* and *food* of the *Massagetæ* resemble those of the *Scythians*; Clio, 215.

2. That both nations lived in *waggons*, or carriages; Clio, 216; Melp. 46, 121.*

3. That they fought chiefly on horseback; Clio, 215; Melp. 46, 136; and,

4. That they sacrificed *horses* to their deities; the *Massagetæ* in particular, to the sun. "They sacrifice horses to the sun, their *only* deity, thinking it right to offer the swiftest of mortal animals, to the swiftest of immortal beings." Clio, at the end. See also Melp. 61.

It however happens, unfortunately, that Herodotus is much too brief in his account of the customs of the *Massagetæ*, to allow any great scope of comparison; otherwise it is probable that more points of resemblance would have been found.†

Jaxartes is meant, as well as by Herodotus), from whence they extended themselves *westward*, to the Euxine and Mæotis, and finally beyond the Tanais: and *eastward* to the ocean. This account appears probable.

* Justin remarks it also. He describes the Scythians generally, as a pastoral people, living in *waggons* covered with skins, lib. ii. c. 2. He adds, that "the ignorance of vice has been of more advantage to *them*, than the knowledge of virtue has to *others*."

The circumstance of their living in waggons was so familiarly known, that Lucian speaks of it, in his *Toxaris*.

† Herodotus relates of the *Massagetæ*, who had their wives in *common*, that the signal of retirement and privacy was the hanging up of the *quiver* of the individual before his *waggon*; Clio, 216. Amongst the *Nasamones*, in Africa, whose habits were nearly the same, a *staff* was fixed in the ground before the *tent*; Melpom. 172.

The Persians of the time of Xenophon, and the Parthians of later times, both of whom, but particularly the latter, being to be regarded as descendants of Massagetæ; whatsoever particulars we discover in the Persians and Parthians that are akin to Scythians, serves to shew a common origin between Massagetæ and Scythians.

Herodotus says, Melp. 70, "whenever the *Scythians* (of the "Euxine) form alliances, they observe these ceremonies: a large "earthen vessel is filled with wine, into this is poured some of the "*blood* of the *contracting parties*, obtained by a slight incision of a "knife or sword: in this vessel they dip a *scymetar*, *some arrows*, "a *hatchet*, and a *spear*. After this, they perform solemn prayers," &c.

Xenophon, Anab. lib. ii. says, that the commanders of the Greeks, and Ariæus (the Persian) took an oath not to betray one another, and to *become allies*, &c.; which oath "was preceded by "the sacrifice of a *boar*, a *bull*, a *wolf*, and a *ram*, whose blood "being all mixed together in the hollow of a shield, the Greeks "*dipped* a *sword* into it, and the Barbarians a *spear*." As the Scythians refined, by becoming stationary in Persia, one may suppose that the blood of brute animals, was substituted for human blood.*

Strabo absolutely calls the Parthians, *Scythians*, in his account of the origin of the city of Ctesiphon, page 743; and, in fact, most of the ancient historians regard the Parthians as descendants of Scythians; that is, of *Massagetæ*. And there is no doubt but that

Dowe says, in his dissertation prefixed to his Indian History, p. xxxvii. that the *Facquirs* of some part of India, leave one of their *slippers* at the door, when engaged in certain visits, in which they are supposed to be privileged, by the *sanctity* of their order. Some of our ancestors are accused of the same want of delicacy as the *Massagetæ* and the *Nasamones*; but we have no particular record of their domestic customs. Herodotus acquits the Western Scythians of this practice, so contrary to decency and sentiment.

* The above modes are represented as *permanent* customs, in the above countries. But we find it practised *occasionally*, and in a more horrible manner, in Egypt, Thalia, 11: and by Catiline, as is told by Sallust.

the resemblance of character between the Massagetan race, and the Scythians of the Euxine, led them to regard both as being of the same stock.*

Justin, who seems to have known no other Scythians than those at the Euxine, to whom he refers whatsoever regards the Scythians at large, assigns to them a high degree of antiquity: for he makes them more ancient than even the Egyptians. His argument to prove it, is very curious. He says, that the Scythians inhabited an elevated tract, which was therefore fit for the reception of men, at an earlier period than Egypt, which had been covered with water; lib. i. c. 1. But although much the same idea of the early state of Egypt was entertained by Herodotus,† yet he supposes, with much reason, Euterpe, 15, that this circumstance does not make any alteration in the case, as the Egyptians would have migrated lower and lower down, as the newly formed land became habitable; wherefore the inhabitants of Lower Egypt would have been drawn from Upper Egypt, (or Thebes,) and Ethiopia. And according to him, the Scythians themselves did not pretend to antiquity; since they affirmed that their country was of all others, the last peopled. Melpom. 5.

Few tracts could be better suited to a pastoral life, than the seats of the *Euxine* Scythians, (the *Ukraine* and its neighbourhood;) in which particular, they had greatly the advantage of the *Eastern* Scythians. The soil was rich, and abundantly watered; and the grass, as Herodotus observes, Melp. 58, " is of all that we know, the fullest of moisture, which evidently appears from the dissection

* In Melpom. 65, it appears that the Western Scythians (our ancestors probably,) decided certain of their differences by combat, in presence of the king. This agrees exactly with one of our ancient customs: but we are daily getting rid of our *Scythian habits*.

† His idea, Euterpe, 4, *et seq.* being, that all the tract below the lake of *Mœris*, which is at the distance of 7 days' journey from the sea, had been formed by the mud of the Nile; and was no better than a marsh in the reign of Menes. See also his reasoning, in chapters 10 to 13.

of their cattle." * They possessed the greatest abundance of provisions, 59, and were of course very populous, 81; but were generally destitute of wood, 61. They held in abhorrence foreign customs, 76; and like most of the eastern nations, kept no swine; 63. Like other Nomadic nations, they were impatient of dependance, and possessed a great share of courage. Having no towns, and few cultivated fields, they could never be conquered. Our Author regarded Scythia, as a country exempt from the character of *absolute barbarism*, although surrounded by nations the *most barbarous*; and says, "Even of the Scythians I cannot in general speak with extraordinary commendation." Melpom. 46. He has recorded their barbarous sacrifices to their deities, and at their funerals; their practice of scalping, (which more than any other circumstance, has fixed the character of barbarism on the American Indians;) their horrid custom of drinking the blood of enemies, and making drinking vessels of their skulls.† If these are not the acts of Barbarians, what are to be deemed such?‡

Notwithstanding some ambiguities, and apparent contradictions, in the geography of Scythia, Herodotus had certainly paid uncommon attention to the subject; and by the solemnity of his declaration, at setting out, we may suppose that he meant to be very

* Bell speaks of the *fertility* of the soil, and *rich pasturage* of the Ukraine. He also says that there are good horses; and large black cattle, which afford as good beef as any in the world. (Journey from Moscow to Constantinople.)

Mr. Bell has (in the same journey,) a curious remark respecting the nature of the river banks, in the line between Moscow, and Ismael, on the Danube. "By what I could observe, (says he) all the great rivers, from the Wolga to this place, have for the most part *high lands* for their western banks, and *low flat* ones to the eastward." It should be remarked that his track lay very far inland, and consequently very wide of Baron Tott's.

† See Melpomene, 60, 64, 65, and 72.

‡ Our Author says, Melp. 46, that amongst the Scythians and the bordering nations, there has been found no individual of superior learning and accomplishments, save *Anacharsis* the Scythian. See more of him in Melpom. 76, and 77.

impressive: for after saying, Melp. 16, that Aristeas had gone no farther than to the country of the Issedones, he adds, "for my own part, all the intelligence which the most assiduous researches, and the greatest attention to authenticity, have been able to procure, shall be faithfully related." And perhaps, it has seldom happened, that a traveller who collected his information concerning the geography of so extensive a tract, in so casual a way, has produced a description in which so many circumstances have been found to agree.*

* *Scythia*, together with the nations bordering on it, and which are included in our Author's description, comprized about half of the length of Europe, in the line between the *Tanais* and the *Bay of Biscay*.

SECTION V.

OF THE COUNTRIES BORDERING ON WESTERN SCYTHIA.

Relative Positions of the Nations bordering on the West, and North of Scythia — The Melanchlæni, Androphagi, Neuri, and Agathyrsi — their general Character. — Positions of the Tribes on the North-east, and East of Scythia — Sauromatæ, or Sarmatians — Amazons *— Budini, Geloni, and Thyssagetæ. — The River* Oarus *taken for the* Rha, *or* Wolga. *— Particulars relating to the Eastern Tribes — Forests of the Budini, answer to those of Woronez — the* Czar Peter *builds Fleets there, and in the Tanais. — Taurica, or Krimea — its Isthmus shut up, from the earliest Times. — The ancient* Tauri *highly barbarous; and subsisted chiefly on the Plunder of Wrecks.*

Having, by the above statement, shewn the general form, position, and extent of Western Scythia, both as it was in reality, and as our Author supposed it to be, we shall next proceed to state, from his descriptions, the positions of the countries said to border on it; which process, by determining the limits of Scythia itself, will also prove our former statement of them.

"As you advance from the Danube, inland," says Herodotus, Melp. 100, "Scythia is terminated first by the Agathyrsi, then by the Neuri, thirdly by the Androphagi, and *last of all*, by the Melanchlæni:" none of which, as he observes in other places, are Scythians.* These nations shut up Scythia, on the west and

* It would appear that some at least, of these names, were purely *Grecian:* and are therefore the *nick-names* given by that people, rather than the *proper* names of the nations. Or, the Grecians may have given *significant* Greek names, which in *sound* resembled the *proper* ones.

north; the Melanchlæni closing the boundary to the Tanais. The SAUROMATÆ, BUDINI, and GELONI, in like manner shut it up on the east; Melpom. 21, 22, 58, 108. On the south, it was chiefly bordered by the sea; so that the Scythians had only for neighbours, on that side, the TAURI, inhabitants of the Peninsula of Krimea; and the Getæ in the remote corner of Thrace.*

The position of the country of the Melanchlæni, which forms a leading point in the determination of the adjoining country of the Androphagi, on the west; as well as in some measure, of the whole line of the northern frontier; has been already fixed, by the act of determining the limits of Scythia, in pages 60, 61. For the Melanchlæni were situated at 20 journies of 200 stadia each, to the northward of the Palus Mæotis, Melp. 20, and 101: and it having appeared, that, in coming from the *west*, the Melanchlæni were the *last* people who bordered on the Scythians, inland; consequently, as the Tanais formed the eastern boundary of Scythia, the Melanchlæni must have closed up the space, to the west bank of that river.

Here it may be proper to mention, that the Melanchlæni are spoken of by Procopius,† as the same with the Sarmatians; who are known to have been seated at, and beyond, the Tanais. But M. D'Anville was of opinion that the tribes in general, that bordered on Scythia, occupied a more westerly position than we have assigned them: for instance, he places the Budini, who lay to the east of the Melanchlæni, on both sides of the Borysthenes, where we place the Melanchlæni and Androphagi.

The Androphagi bordered on the *west* of this tribe: because, first, they lay beyond, or to the *north* of the Borysthenitæ, who occupied the banks of the river from whence they were denominated, to the extent of 11 days' voyage above Hylæa; beyond which, a vast desert commenced, which extended to the Andro-

* The reader is requested to refer to the Map of Scythia, No. III. at page 50.

† Vandal War, lib. i.

phagi; Melpom. 18. And secondly, because Darius Hystaspes, on his return westward, passed out of the territory of the Melanchlæni, into that of the Androphagi; Melp. 125. It is probable then, that the Borysthenes might form the common boundary of these nations; and according to the given breadth of Scythia, 4000 stadia, the general course of the river Desna and Sem, may be taken for the line of separation between the Scythians and the Melanchlæni, at the height of the parallel of 51°.*

The southern border of the Androphagi, according to the given distance of the frontier of Scythia from the Euxine, must have advanced to the conflux of the rivers Borysthenes and Prypetz; and their extent westward, or rather south-westward, may be gathered from the position of their adjoining neighbours on that side, the Neuri. These then, dwelt near the river Hypanis (or Bog), Melp. 17; and, in 51, they are said to be *separated* from *Scythia*, by the river *Tyres*, (or Dneister). Now, although we cannot exactly understand in what particular part of its course, the Tyres formed the common boundary of the two countries, yet we have at least a proof that the Neuri *bordered on* the Tyres, and that they were not *far* from the Hypanis: for, as in order to preserve the given dimensions of Scythia, inland, we must extend it to the forks of the Borysthenes, on the one hand; and to the borders of Poland, and to the source of the river Pruth, on the other; the Neuri must of course have been situated towards the heads of the Tyres and Hypanis (Dneister and Bog).† Again, as the Neuri joined on the south-west to the Agathyrsi, who appear to have occupied Transylvania and the north-east part of Hungary, they must have touched on the *Bastarnian* Alps, which would separate them from the Agathyrsi. For *this* tribe, as we have seen, is the *first* that

* Herodotus supposed that the tracts to the north of the *Melanchlæni*, and *Androphagi*, that is, *Grand Russia* and *Lithuania*, were uninhabited.

† Yet Pliny says, lib. iv. c. 12, that the *Neuri* were situated at the source of the *Borysthenes*.

borders on Scythia, in advancing from the Danube, eastward, Melp. 100; and Scythia, as we have also seen, contained a part of Walachia, (see page 60.) It is also said, Melp. 49, that the river *Maris*, which joins the Danube, rises *amongst* the Agathyrsi; and as this answers clearly to the *Maros* of modern geography, this tribe should have occupied the province of Transylvania generally; together with the NE part of Hungary, which bordered on the Neuri.

It is said, Melpom. 104, that "the Agathyrsi, in most respects resembled the Thracians." This adds to the probability of their having possessed Transylvania; which is in the *neighbourhood* of Thrace, taken at large, according to the ideas of Herodotus; and therefore the account agrees in the principal points.*

Since then, the Agathyrsi possessed the NE part of Hungary (in addition to Transylvania), and had the Neuri adjacent to them on the NE, beyond the heads of the Pruth,† (which rises within Scythia;) and that the same Neuri were also in the neighbourhood of the rivers Hypanis and Tyres,‡ we must, of course, place the Neuri in the eastern part of the province of Gallicia, and in part of the adjoining country of Lutzk, or Lusuc; whilst the Androphagi, who lay between the Neuri and the Melanchlæni, must have occupied Polish Russia, and both banks of the river Prypetz, the western head of the Borysthenes. And finally, the Melanchlæni themselves should have possessed the present Russian governments, (either entirely, or in part,) of Nougorud, Orel, Mohilew, and Kursk; together with some lesser tracts, towards the Tanais, and the city of Moscow. Thus we arrange the nations bordering on the *west* and *north*, of SCYTHIA.

* In M. D'Anville's ancient geography, the *Agathyrsi* are found on the *Rubo*, or river of *Riga*. To us, this does not appear to agree, either with the arrangement of *Herodotus*, or with the circumstances of the march of Darius. In like manner the *Budini*, are placed by him at the *forks* of the *Borysthenes!*

† Melpom. 48. ‡ Melpom. 17 and 51.

Our Author appears to have known no particulars concerning the countries situated *beyond* the Androphagi, and Melanchlæni, northward. In Melp. 18, 20, and 125, he supposes the whole tract to be desert, or marshy; and entirely uninhabited.

He characterizes these different nations in the following manner:

The AGATHYRSI are represented to be a people of effeminate manners, and abounding in gold; and excepting the strange custom of having their women in common, resemble the Thracians. The character of effeminacy did not, however, apply to them, on occasion of the invasion of the Persians; as will be seen in its place; and in Melp. 104, 125.

The NEURI observe Scythian customs, Melp. 105. There was a ridiculous idea amongst the Scythians, and the Greeks living in Scythia, that once a year, the Neuri were *changed* into *wolves*; and in the space of a few days returned to their former shapes. "But this," says our Author, "I do not believe, although they swear that it is true." This is also reported in Pomponius Mela, lib. ii. c. 1. As they are said to have once taken refuge amongst the Budini, (beyond the Tanais,) they ought to have been but a small nation, Melp. 105.

The ANDROPHAGI, or *men-eaters*, are a separate nation, and by no means Scythian; Melpom. 18. Again, they are perhaps of all mankind, the rudest: they have no forms of law or justice, their employment is *feeding of cattle*: and though their dress is Scythian, they have a dialect appropriate to themselves. Melp. 106.

The MELANCHLÆNI are not Scythians, 20; but their manners are Scythian, 107. They are clothed in *black*, from whence they derive their name.* He adds, that "they are the only people known to feed on human flesh:" but there can hardly be a doubt

* Tamerlane found in the mountains of *Kawuck*, (a part of the Indian *Caucasus*) a tribe who are named by his historian Sherefeddin, *Sia-poshians*, or *black clothed*. The *Getes* beyond the *Jaxartes*, had *black* ensigns. Sherefeddin's Timur, book iii. c. 6.

that this should be applied to the *Androphagi* in the *preceding* sentence; as the *occupation* of the Androphagi should probably be applied to the *Melanchlæni.* All is then consistent.

We shall next inquire into the positions and circumstances of the nations bordering on the east and north-east of Scythia.

The Tanais is said to separate the Royal Scythians from the SAUROMATÆ,* on the east; Melp. 20, and 57. These commenced at the *remote* parts of the Palus Mæotis, (speaking in respect of the Danube and Scythia;) and inhabited a space extending northward, equal to 15 days' journey; Melp. 21.

Beyond the Sauromatæ, (implied of course to be to the north, or north-east,) were the BUDINI, or BUDIANS, who inhabited a country *abounding with wood:* whereas, that of the Sauromatæ was quite destitute of trees, and may therefore be taken for part of the Desert of Astrakan, and of the country of the Don Cossacks: as that of the Budini, said to be exceedingly woody, Melpom. 21, for the country of *Woronez;* which is not only woody, but abounds with forests of fine ship timber; of which more, in the sequel.†

Amongst the Budini, was a Grecian colony named GELONI; who possessed a large city, built of wood, apparently the only city in all that quarter. It was named Gelonus. Melp. 108.

Beyond the Budini, lay a desert of 7 or 8 days' journey in extent; to the *east* of which, were the THYSSAGETÆ, "a singular but populous nation, who supported themselves by hunting;" Melp. 22, 123. We shall say nothing at present, concerning the nations

* They were named *Sauromatæ* by the Greeks; *Sarmatæ* by the Romans: Pliny, lib. iv. c. 12.

† Rubruquis, in A. D. 1253, crossed the countries between the Krimea, and Saratow, on the Wolga. He reports that the country between the Tanais and the Wolga, (at a point very high up, as he was about 15 days in travelling across from it to the Wolga,) was very fine, full of rivers, and interspersed with vast forests.

situated further to the east, and extending towards the *Issedones* and *Massagetæ;* because they have no immediate reference to, and would only serve to embarrass, the present subject; which is exclusively WESTERN SCYTHIA, and the nations *immediately* bordering on it.

The Sauromatiæ intended by Herodotus, (for his Scythia is the Sauromatia, or Sarmatia of later authors,) may be supposed to have extended along the eastern side of the Mæotis, and thence up the Tanais, to about the part, where that river and the Wolga approach each other, to form the Isthmus at Zaritzyn; and on the probable supposition that the *lower part* of the *Donetz* was taken for the *Don*, they must have occupied *both* banks of that river to the same extent; that is, 15 journies, or 3000 stadia.

This being admitted, the Budini must necessarily be placed *above* that Isthmus. To what extent, we are not told; but as they were "a great and numerous people," Melp. 108, a great space is required for them; and they may, with probability, be extended up the Tanais, beyond Woronez.

The position of the Geloni does not appear; otherwise than that they were *included* in the country of the Budini.

The Thyssagetæ, as has been said, lay to the east of the Budini, separated by a desert of 7 or 8 journies. They also, were a populous nation; and moreover, subsisted by hunting: consequently, *they* required a great extent of country *also*. It is said, in Melp. 123, that from the country of the Thyssagetæ, "four *great* rivers, after watering the intermediate plains, empty themselves into the Mæotis:" and that their names are "the *Lycus*, *Oarus*, *Tanais*, and the *Syrgis*." (This last seems to be the same that is intended by the name *Hyrgis*, in Melp. 57; where it is said to be an adjunct of the Tanais.)

Since the Budini are placed to the *east* of the Tanais, and the Thyssagetæ, or at least a part of their country, to the *east* of that of the Budini; and that the country of the Thyssagetæ itself is very extensive; it may readily be conceived to extend along the

north and *north-east* of the Budini, between the upper part of the Tanais, and the Wolga about Saratow. Nor is that extent of space greater, than is allowed by our Author to the Sauromatæ.

It is unlikely that the geographers of those days were critically informed, concerning the positions and courses of these rivers; especially as the Tanais is composed of many branches, and one of those (the *Medweditza*) springing from the very neighbourhood of the *Wolga*: so that it may well be, that although the Thyssagetæ had amongst them *certain* fountains of the Tanais, yet that the Wolga itself might have been one of the rivers intended; as by its course above Zaritzyn, it must have appeared to a casual observer, to run towards the Mæotis: more especially, when the two great errors respecting the Mæotis and Caspian, are considered: the Mæotis being supposed to extend a vast way to the east of its actual position, and the Caspian to be much more remote than it really is. Accordingly the Wolga may well be taken for the *Oarus*;* and perhaps the *Medweditza* and *Choper*, for the *Lycus* and *Syrgis*; or *Hyrgis*.†

We are told that Darius returned from the banks of the Oarus directly into Scythia; re-crossing, as it appears, the country of the Budini, and without entering into that of the Thyssagetæ: Melp. 124: and that from thence, he followed the Scythians into the country of the Melanchlæni, situated as we have seen, between the *upper Borysthenes* and *Tanais*. This movement accords with the opinion just delivered, concerning the respective positions of the several nations adjoining to Scythia; and hence it will appear, that the

* The Roman name of the Wolga was *Rha*.

If the river of *Woronez* be taken for the *Oarus*, this difficulty arises, that the *Thyssagetæ* could not then take the relative position assigned them by our Author, to the *east* of the *Budini*; which latter, as well from the position, as the description, of their country, should have occupied the *woody* tract about *Woronez*, &c.

† There are two or more rivers of the name of *Irgis*, in modern geography, but they are to the east of the Wolga, and in the *Steppe*.

Scythians, together with the bordering nations above described, must have occupied the whole of that vast tract, situated between the heads of the river Teisse (Tibiscus) on the west, and the Wolga on the east; northwards to the borders of Kazan and Moscow; NW to the heads of the Vistula; and southwards to the Danube, Euxine, Tanais, and the Desert of Astrakan.

It may be proper in this place, to speak a word concerning the just-mentioned tribes bordering on the east of Scythia.

The SAUROMATÆ, according to our Author, were a mixed breed of Scythians, and of Amazons, from the banks of the river *Thermodon*, in Asia Minor; Melp. 110. The story throughout, has doubtless, too much the air of fable. It appears that the language of the Sauromatæ was a *dialect* of the Scythian; 117; and that, on occasion of the Persian invasion, they considered the cause as common to both nations, and joined their arms to those of the Scythians accordingly; 119. And as they afterwards formed a separate body, whose department was to watch the Persian army at the Tanais, and to pursue and harass them, on occasion of their retreat; they ought to have been a numerous people; 120.

The Sauromatæ were then, in effect, Scythians; who had their language and customs somewhat changed, by intermarrying with women of another nation.

Since the story of the Amazons, in the way it is commonly told, is so justly exploded in these times, one is surprised how it came to be so universally believed, as that most of the writers of antiquity should speak of it as a fact. Nay, even our Author has gone so far, in Calliope 27, as to make the Athenians say, that the Amazons had advanced from the river Thermodon to attack Attica! That a community of women existed for a short time, is not improbable, since accidents may have deprived them of their husbands; but were there not in that, as in every community, males growing up towards maturity?

Justin, lib. ii. c. 4, describes the origin of the Amazons to be

this: a colony of *exiled* Scythians established themselves on the coast of the Euxine sea, in Cappadocia, near the river *Thermodon*; and being exceedingly troublesome to their neighbours, the men were all massacred. This accounts very rationally for the existence of a community of women; but who can believe that it continued? Human nature was, no doubt, the same on the banks of the Thermodon, as elsewhere; and a different state of things could only exist in the descriptions of poets, or of those who followed their authority.

It may be remarked, that every authority places the Amazons at the river *Thermodon*, and in the plains of *Themiscyra*, which it waters. And from hence, Herodotus transports a part of them by sea, to the opposite shore, near *Cremnis*, a port in the Mæotis, amongst the Royal Scythians; from whence their new husbands carry them beyond the Tanais, into *Sauromatæ*.

The BUDINI were a great and numerous people: they painted their bodies *blue* and *red*; Melp. 108; and had the character of being *magicians*; 105. They are said in one place, 21, to be husbandmen, but in another, 109, to be feeders of cattle; in contradistinction to the GELONI, who were an agricultural people.

Their country abounds with timber; which gave occasion to the building of a large city with that material, by the Geloni; who were Greeks, expelled from their commercial towns, (we must suppose, on the coast of the Euxine,) and took refuge amongst the Budini. They had temples built in the Grecian manner, to Grecian deities; with the statues, altars, and shrines, all of wood; 108. The Greeks were apt to confound both nations under the name of Geloni, although they differed widely in appearance, complexion, and habits. Within their country, amidst the thickest woods, there is a large lake, in which (says our Author) are found otters, beavers, and other wild animals who have square snouts: and whose skins were used to border garments; and their testicles were esteemed useful in hysteric diseases; 109.

It is said, 105, that the Neuri, on a particular occasion, took refuge with the Budini: so that there are *two* instances, in which they afforded an asylum to distressed strangers. This is a most favourable *trait* of their character. They had the reputation of being *magicians:* they were probably an ingenious people, and excelled their neighbours, in arts, as well as in hospitality. To add to their character, *they*, together with the Geloni, generously joined their arms with the Scythians, and Sauromatæ, in repelling the Persian invader; 119.

The country of the Budini, has been taken for that of Woronez, and its neighbourhood (page 89); as well from description, as position; it being, like the other, full of forests. These, in modern times, have been converted to purposes, very different from those, to which the Geloni applied them: for, in 1703, the CZAR PETER built a large fleet of ships, almost a navy, at Woronez, and in its neighbourhood: and which were floated down by the river Don, to Azoph, and the Euxine. The account of it may be seen in Le Brun, who visited Woronez in the train of the Czar.* He relates, that he saw at *Stepana*, 10 ships; 47 others at *Woronez;* and 11 others in the river Don, not far below Woronez; which is itself situated on a river of the same name, near its conflux with the Don; in about the parallel of 52°. It is understood that almost all the above 68 ships, were ships of war of different rates; and of which, 16 are *specified* to be from 86 to 54 guns; and many others are implied to be of considerable force. There were besides, 200 brigantines; mostly built at Woronez. And he adds, that there were at the same time, 400 very substantial ones on the Borysthenes, in the neighbourhood of Krim Tartary; 300 flat boats in the Wolga; and at Azoph, 18 men of war, and some smaller vessels. Some of these were built after the English mode; others, after the Dutch, Venetian, and Italian; but whether this variety was a necessary consequence of employing shipwrights of different

* See Le Brun's Travels, Vol. i.

nations, or was meant for the purpose of experiment, we are not told. Le Brun, however, who had probably no partiality for the English, says, that the ship of 86 guns, built at Woronez under the direction of the CZAR himself, and named after him, was built in the English style. Another, under the same inspection, was built in the Don; but neither the rate, nor the fashion of it, are mentioned. It has been understood that the CZAR thought the English the best shipwrights.

When we reflect on the various personal labours of this TRULY GREAT Prince, all tending to produce either an immediate, or a remote, advantage to his country; now enforcing duty by example, now operating the direct means of national strength, or improvement; considering also, the unusual means pursued by him, to obtain the requisite degree of knowledge; we are struck with admiration; and cannot help exclaiming with Addison, "WHO BEFORE HIM, EVER LEFT A THRONE, TO LEARN TO SIT IN IT, WITH A BETTER GRACE?" The effect has been, not only to humanize, to protect, to enrich, his country; but to raise it to that summit of power, as to flatter the friends of ORDER, (and of VIRTUE, of which it is the PARENT,) that its interference in the present AWEFUL contest, may produce the happy consequences of restoring the lost balance of power in Europe; by humbling *that government*, whose views, like those of Lucifer, seem to be no other, than to render mankind wicked, in order to increase the number of its subjects.

Concerning the THYSSAGETÆ, neighbours to the Budini, and Geloni, our Author appears to have known but little. This was probably owing to the circumstance of Darius Hystaspes' having stopt short on the borders of their country; a presumptive proof that the information concerning these countries, was derived from the Persian expedition. Herodotus says nothing more concerning the Thyssagetæ than that they were "a *singular* but *populous* nation, who support themselves by *hunting*."*

* Pliny mentions the *Thyssagetæ*, as well as most of the other nations spoken of

We shall close this section with some few observations on the TAURI, or inhabitants of the *Krimea;* and on the antiquity of the practice of shutting up this remarkable Peninsula, by a wall, or fortified line, or ditch, across the narrow Isthmus that joins it to the Continent.

Herodotus speaks of a *trench*, which the slaves of the Scythians, who usurped the places of their masters, during their absence in the Median war, had dug, with a view to fortify themselves against those masters, on their return. It is said, in Melpom. 3, that they "intersected the country, by a large and deep trench, which extended from the *mountains* of *Tauris* to the *Palus Mæotis*, and encamped on the opposite side to dispute the passage." He speaks again of the same trench, in Melpom. 20, as the eastern boundary of the Royal Scythians. No mountains, however, are marked in any position, corresponding to the above idea; and we have never heard of any mountains of *Tauris*, save those *within* the Krimea itself, and which, by their position, seem to be out of the question, here.* Nor does our Author speak of any other *Tauris*, or *Taurica*, than what is unequivocally intended for the *Krimea*. It is probable therefore, that the trench intended, was that, which shut up the just-mentioned Peninsula: and more especially, as such trenches or walls, or both, are clearly pointed out by other historians. In this case therefore, some other word than *mountains*, should be read: and the trench (which in fortification, always implies a rampart also,) would have been drawn from the Palus Mæotis to

in this chapter; as the *Agathyrsi*, *Budini*, *Geloni*, *Neuri*, *Sauromatæ*, &c. but without any discrimination as to position; see lib. iv. c. 12. He says that the Thyssagetæ have *blue* hair: this may have been amongst the singularities, alluded to by Herodotus.

* Rubruquis, who travelled from the Krimea to the Wolga, in the line towards *Saratow*, describes a vast plain, 20 journies in extent, without mountain, tree, or stone; and with excellent pasturage. He went the first 10 days without seeing an inhabitant. The tract in question, was that inhabited by the *Royal Scythians* of our Author.

the opposite shore of Tauris. Nothing appears more probable, than that the slaves should have availed themselves of the natural advantages of the situation, to improve their plan of defence.

Strabo describes a fortified line; p. 311, 312; and Pliny, although he does not mention any work of this kind, says, lib. iv. c. 12, that *Taphra*, a town, stands on the neck of land, which joins the Peninsula to the Continent; which name so strongly implies a *trench*, and this last, a rampart also, that it cannot be doubted that the town was named from the fortification; as *Or-kapi*, or *Perekop*, is at present. Pomponius Mela says the same. Ptolemy places *Taphros* in the same situation: and it is probable that the same is alluded to, in the *Toxaris* of Lucian, where the *Bosphoritæ* are enjoined by the Scythians to keep *within* the *Trachon*; perhaps corrupted from *Taphros*. The Krimea was denominated by the Romans, the kingdom of *Bosphorus*.

Thus, it may be conceived, that the Krimea has ever been shut up, since it was first firmly united to the Continent, by the allusions, either of the sea, or of the Borysthenes; or both. The nature of the defences, have, no doubt, varied with the ability of the possessor; and the works now existing, appear to be as much beyond the ability of a community, whose possessions were limited to that Peninsula alone, as the pyramids of Egypt were beyond a mere sovereign of that kingdom. The inference, it is conceived, should be, that they were constructed by the Genoese, whilst they continued masters of the Krimea, and of the vast commerce that centered in it, as an *emporium*; the profits of which were fully adequate to such an expence. Masters of the shores of the Euxine, and of both the *Bosphori*, the Krimea, thus shut up with a rampart, was invulnerable. That the Genoese, then, were the authors of that famous rampart now in existence, we think highly probable: and the following circumstances, appear to be in proof of it.

Rubruquis, who visited the Krimea, in his way to the court of Mangoukan, in 1253, mentions the narrow Isthmus, but says

nothing concerning any fortification on it. He compares the Isthmus to a *great ditch*, or hollow, between the two seas. This might be meant either to express the *remains* of a *former ditch*, or of a *hollow* occasioned by the *meeting* of the *slope*, described by Baron Tott, with a plain below. See page 70.

This visit of Rubruquis, was made during the reign of BATOU KAN, grandson of JINGHIS,* and King of Kipzak, &c.; whose residence was at *Serai* on the Wolga, and whose empire included the Krimea, as well as the adjoining country. Had there been a wall, originally, it is probable that it would have gone to decay, when the country on both sides, belonged to the same sovereign; as the Picts' wall in our Island, on the change of circumstances that has taken place.

It must surely be inferred from the words of Rubruquis, that no rampart existed there, in 1253; and the emperors of Constantinople do not appear to have been in a state to execute such a work, posterior to the middle of the 13th century. But it is well known that the Genoese possessed the Krimea, in full power, during the succeeding century, and even to a later period. The passages selected in the note,† from the elegant historian of

* It is believed, that the descendants of Jinghis Kan, have continued to be sovereigns, either real, or nominal, of the Krimea, down to the present age.

† "The Genoese, who after the recovery of Constantinople, were seated in the suburb of Pera or Galata, received that honourable fief from the bounty of the emperor.

"From this colony they engaged with superior advantage in the lucrative trade of the Black sea; and their industry supplied the Greeks with fish and corn; two articles of food almost equally important to a superstitious people. The spontaneous bounty of nature appears to have bestowed the harvests of the Ukraine, the produce of a rude and savage husbandry; and the endless exportation of salt-fish and caviare, is annually renewed by the enormous sturgeons that are caught at the mouth of the Don or Tanais, in their last station of the rich mud and shallow water of the Mæotis. The waters of the Oxus, the Caspian, the Wolga, and the Don, opened a rare and laborious passage for the gems and spices of India; and after three months' march, the caravans of Carizme met the Italian vessels in the harbours of Krimea. These

declining Rome, will clearly shew the ability of the Genoese, to perform, not only the work in question, but even greater ones.

Baron Tott speaks as follows, concerning these famous lines. He had previously said that they extended three quarters of a French league, or about two British miles.

" No picture of this kind can be more respectable. Excepting that the works are rather gigantic, I know of none where nature is better seconded by art. The solidity of the intrenchment is likewise to be depended on: and will long continue to resist that ignorance, which neglects every thing. Nothing points out the *æra* of its construction; but every thing conspires to prove it of a date anterior to the Tartars; or if not, that these people were at least, better informed in ancient times than at present."

The Baron adds, that these works, were they properly palisadoed and armed, would protect the Krimea against an army of 100,000 men; but that the tongue of land between the lake *Siwasch* and the Mæotis, having been neglected, the Russians had twice entered it, that way.*

The TAURI, or inhabitants of the *Krimea*, one would naturally have expected, to have found ranked amongst the Scythians; but

various branches of trade were monopolized by the diligence and power of the Genoese. Their rivals of Venice and Pisa were forcibly expelled: the natives were awed by the castles and cities, which arose on the foundations of their humble factories; and their principal establishment of Caffa was besieged without effect by the Tartar powers. Destitute of a navy, the Greeks were oppressed by these haughty merchants, who fed, or famished, Constantinople, according to their interest. They proceeded to usurp the customs, the fishery, and even the toll, of the Bosphorus; and while they derived from these objects a revenue of 200,000 pieces of gold, a remnant of 30,000 was reluctantly allowed to the emperor."—(Gibbon's Decline and Fall of the Roman Empire, Vol. xi. pages 390, 392, *et seq.* octavo edition.)

* It may not perhaps be going too far, if we were to advance an opinion, that, to RUSSIA, the *future* value of the *Krimea*, and province of *Taurida* (including the *embouchure* of the Borysthenes), will exceed that of her Asiatic possessions, collectively.

the matter was otherwise; for in the consultation held by the Scythians, with their *neighbours*, on occasion of the Persian invasion, the Tauri are classed amongst the *latter*, and are distinguished by some very peculiar, as well as abominable customs.

"All strangers shipwrecked on their coasts, and particularly every Greek who falls into their hands, they sacrifice to *a virgin*. The sacred personage to whom this sacrifice is offered, the Taurians *themselves* assert to be IPHIGENIA, the daughter of Agamemnon;" Melpom. 103. Here it appears, that Iphigenia is put in the place of Diana; to whom she is, by others, represented as the priestess.* Our Author allows that Diana was worshipped by the Thracians; Terpsichore, c. 7.

The whole subsistence of the Tauri, according to our Author, was procured by acts of plunder and hostility. One custom alone, marks their savage character: they placed the head of a prisoner, on a stake at the top of their chimnies, to operate as a charm for the protection of their families: as the superstitious amongst us, nail a horse shoe on the threshold, or against the mast of a ship. Our practice, though equally absurd, is at least harmless in itself; and does not blunt the feelings of the rising generation. From this, and other barbarous tribes, along its coasts, we may suppose the Black sea acquired amongst the ancients, the title of *inhospitable*.†

It has pretty generally happened, that the inhabitants of coasts,

* "On that inhospitable shore, EURIPIDES, embellishing with exquisite art the tales of antiquity, has placed the scene of one of his most affecting tragedies. The bloody sacrifices of Diana, the arrival of Orestes and Pylades, and the triumph of virtue and religion over savage fierceness, serve to represent an historical truth, that the TAURI, the original inhabitants of the Peninsula, were, in some degree, reclaimed from their brutal manners, by a gradual intercourse with the Grecian colonies, which settled along the maritime coast." (Gibbon, Vol. i. p. 421.)

† Its ancient name was *Axenus*: afterwards changed to *Euxinus*: Pliny, iv. c. 12.; and vi. c. 1.

particularly dangerous to navigation, are exceedingly unfeeling and ferocious; a habit doubtless acquired by plundering wrecks; which includes also, occasionally, the stripping and maltreating of those who escape from them; and, by an easy transition, to murder. We shall say nothing concerning certain of our own countrymen, in this respect, as they are growing better: but it is worth remarking, that as the *Nasamones* at the *Greater Syrtis* were infamous in ancient times for these practices, so, according to Mr. Bruce, who was shipwrecked there, they are not mended in the present times. (See his Introduction, Vol. i.) Many other instances could be adduced; and they absolutely appear to be an effect of geographical situation, combined with adventitious circumstances, on the human mind.

SECTION VI.

EXPEDITION OF DARIUS HYSTASPES, TO WESTERN SCYTHIA.

The March of DARIUS *into Scythia, may be traced in a general Way—passes the Danube, and leaves the floating Bridge in Charge of the Iönians.—Marches eastward to the Tanais, which he crosses, into Sarmatia; the Scythians retreating before him—advances to the* Oarus, *where he erects a Chain of Fortresses—the* Oarus, *(taken for the* Wolga,) *the Term of his Expedition, Eastward.—Scythians lead him to the Northward, and Westward, into the Territories of the Seceders, the* Melanchlæni, Androphagi, *and* Neuri, *in order to save their own Lands.—The* Agathyrsi, *on whom the same is attempted, resist both Scythians, and Persians.—Losses and Distresses of the Persian Army—recover their Bridge on the Danube; which the Scythians could not prevail on the Iönians to destroy.*—Sepulchres *of the Kings of Scythia.—Barbarous Funerals*—Gold *buried with the Bodies.—Expedition of Darius, compared with that of Cyrus, against the Eastern Scythians—The former Invasion of Media, by the Scythians, gave Rise to the Expedition of Darius.—The* Scythians, *the* Gog *and* Magog *of the Scriptures.—Idea of the Time consumed in the Expedition.—Iönian and Æolian Fleet attend Darius.—Conjecture about the Supply of Provisions for the Persian Army.—Bridges of Darius and Xerxes, over the* Bosphorus, *and* Hellespont—*more of Vain-glory than Use, in these Works.—Idea of the Breadth of the two Straits.—Difficulties in the Description of Xerxes' Bridge, attempted to be solved.*

THE march of DARIUS HYSTASPES through Scythia, cannot, for want of circumstantial detail, be *accurately followed* on the map. But it may, however, be done in a general way; and we shall

endeavour to trace it by the aid of those circumstances which present themselves. The trace itself will be found on the Map, No. III. at page 50.

He crossed the Danube over a bridge of boats, at the place where it first begins to branch off, to form the several channels, through which it enters the Euxine;* Melp. 89. The place therefore, may be supposed to have been not far above the site of *Ismail*, and between that and the conflux of the *Pruth* with the *Danube*. The Iönian fleet, which was dispatched from the Bosphorus to perform the service of laying the bridge, sailed two days up from the sea, in order to arrive at the place; Melp. 89.

Having left the Iönians in charge of the bridge, he marched *through* Scythia, *eastward* to the Tanais; the Scythian army, which was divided into two bodies, retiring regularly before him, at the distance of a day's march; filling up the wells, and destroying the produce of the fields; 120, 121, 122. Their families, together with such of their cattle, as were not necessary to their immediate subsistence, were previously sent off to the northern frontier; 121.

Darius, crossing the Tanais, came into the territories of the Sauromatæ; and from thence into those of the Budini, 122; which having also crossed, he finally came to the desert of 7 or 8 journies in breadth, which, as we have seen, page 88, separated the country of the Budini from that of the Thyssagetæ; Melp. 22, 123: and here he halted on the banks of the river *Oarus*, where he constructed 8 fortresses or *redoubts*, at the distance of about 6 miles from each other; the ruins of which, says our Author, "have been visible to my time;" 124. And this was the most distant point of the expedition of Darius, *eastward*.

It has been shewn, that the Thyssagetæ lived beyond this desert; and that the river Tanais, as well as the Oarus, and two others, passed *through*, or *by*, their country; which, by circum-

* Mr. Bell says that it enters the Euxine, by a single channel only: but this is contrary to every other report, ancient and modern.

stances, must have been very extensive. And on this ground we have supposed it to lie between the Tanais and the Wolga, concluding also this latter to be intended, by the Oarus; as by its course above Zaritzyn, it might be supposed, by an ordinary observer, to run towards the Mæotis, rather than towards the Caspian.

The Oarus then, was the utmost term of the march of Darius; and that Oarus we have taken for the Wolga. The desert, on the border of which he halted, we have supposed to begin below Saratow; as the territories of the Thyssagetæ were supposed to commence near that place; page 89; and hence we fix the term of Darius's expedition, about the great bend of the Wolga, near *Saratow*.*

A more than ordinary cause, must have determined the measure of erecting the chain of fortresses, extending a length of 420 stadia; that is, 40 or more English miles: but that object, whatsoever it was, cannot now be ascertained. Could one suppose that Herodotus was inaccurate, in his statement of the particulars of the march, or of the relative positions of the countries, hereabouts, one might suspect that the chain of redoubts extended between the Wolga and Don, at the Isthmus of Zaritzyn; but by the text, we must look towards Saratow. It is probable, that at whatsoever point it was, the depth and rapidity of the Wolga, opposed the farther progress both of the Persians and Scythians: and the retrograde movement of the Scythians, circuitously, by the *higher parts of the country, into Scythia* (we must suppose, by traversing the northern part of the Budian's territory,) seems to have determined the future line of march of the Persians; which was now towards the *west*, pursuing *another* division of the Scythians, who regulated their position, at the distance of one day's march *before* the Persians; Melpom. 124. It appears that they were

* There actually appears in Delisle's Map of Russia (see his Atlas, 2d sheet Russia,) a desert, said to be of 10 days' extent, near that part of the Wolga just mentioned.

enabled to do this, because their army consisted chiefly of horse; the Persian army, chiefly of infantry; 136.

In our discussion of the positions of the nations bordering on Scythia, it appeared, pages 88 and 89, that the Sauromatæ extended 15 journies to the *north*, *up* the course of the Tanais. That the country of the Budini and Geloni began at that point; and these being each of them a great and numerous people, must have extended a great way to the north, as well as to the east; and moreover, living in a country full of vast forests, must probably have extended far within the country of Woronez: and finally, that the Thyssagetæ lay beyond them, to the *east*, and also to the *north*; as having within their territory, the *fountains* of the Tanais.

From all this it is clear, that the Persians were led very far to the north: and that it had been the intent of the Scythians to entangle them in the desert lying between the Budini and Thyssagetæ; from whence they might not have been able easily to escape. But finding this scheme impracticable, they made the circuit before described, to the *north* and *west*, leaving the Persians at fault: in consequence of which, the latter turned *westward*, on a supposition that the detachment which they had pursued, had retired that way: but arriving in Scythia, they found, instead of *that* detachment, *two other* bodies of Scythians, which retreated before them, in the manner before described; and soon after led them amongst the Melanchlæni, who have been described to lie on the northern frontier of the Royal Scythians. See pages 60, 61, 84.

Considering the intricate course of the Tanais, and the circumstance of its having many large adjuncts, it is probable that the Persians might not be correct in their report of its course; and therefore it would be vain to attempt to follow them, in detail. It appears probable, however, that they crossed it at a point, much *above* its *embouchure* in the Palus Mæotis; as the Scythians evidently led them up to the northward, in order to draw them with

more ease into the territories of the bordering nations, who had refused to co-operate with them, in the common defence of the country; a system formed from the beginning; Melp. 120. For, on occasion of the consultation between the Scythians and their neighbours, the *Sauromatæ*, *Budini*, *Geloni*, *Melanchlæni*, *Androphagi*, *Neuri*, *Agathyrsi*, and *Tauri*; the THREE former alone, engaged to join in the general defence; Melpom. 119, 120. Darius then, having been drawn up to the *north*, nearly to the height of the Thyssagetæ, and from whence he must have returned *westward*, through the Budians' country, would finally have but a *corner* of Scythia to cross, before he was led by the Scythians, amongst the Melanchlæni; and from thence, successively amongst the Androphagi, and Neuri; Melpom. 124, 125; all of whom "were harassed by *both* parties, and fled in alarm to the deserts of the north;" Melp. 125; by which means, the Scythians saved their own lands, and effectually punished their inactive or treacherous neighbours.

The same conduct was also intended towards the Agathyrsi, had they not possessed too much wisdom and courage to allow it;* 125: perhaps also a strong country, which enabled them to use those advantages; and which the others might not possess: for the Agathyrsi appear to have held the country of Transylvania, and the NE part of Hungary; and consequently had a strong frontier towards the east, in the vast ridges, named by the ancients, the *Bastarnian* Alps, and *Carpathian* Mountains.

The Scythians, turning aside from the Agathyrsi, retreated once more into their own country, still followed by the Persians; who now finding that the nature of the country, and warfare of the Scythians was such, as that no impression could be made on them; and being themselves reduced to distress for provisions, directed

* Herodotus styles them effeminate, in Melpom. 104; but this does not accord with their conduct in this case.

their march towards their bridge on the Danube, being now returned to that neighbourhood; Melp. 125, *et seq.*

Meanwhile the Scythians, having accomplished their principal purpose of creating delay, by compelling the enemy to take so wide a circuit, tried their last project of inducing the Iönians to break the bridge, whilst their armies watched opportunities of attacking the Persians with advantage. The time chosen, was during the Persian meals, and at night; and the Scythians, who were chiefly cavalry, and superior to those of the Persians, were generally successful in the outset; but were always beaten back, when the infantry came to act; Melp. 128. All which appears probable; for the infantry of civilized nations, is ever superior to that of barbarians, whatsoever the comparative state of their cavalry may be. But the Persian as well as the Indian camps, are very liable to surprise, through the remissness and indolence of their guards and centinels. It is related by Xenophon, that the Persian army which followed the Greeks, during their memorable retreat, notwithstanding their vast superiority in cavalry, always retired at the close of the day, to the distance of about 60 stadia, for fear of a surprise from the Greeks during the night.*

It was not without great loss and disgrace, that the Persians recovered their bridge, which the Iönians had preserved for them, in despite of the remonstrances and intreaties of the Scythians; but the motives which induced this conduct, were neither generosity, nor pity towards men in distress; they were nothing else than the unwarrantable plans of ambition, of some of the petty princes of Iönia; Melp. 137, 138.

* "They (the Persians) never encamped at a less distance from the Greeks, than 60 stadia, for fear these should fall upon them in the night. A Persian army being then subject to great inconveniences: for their horses are tied, and generally shackled, to prevent them from running away," &c. &c. He has besides to equip himself, and his horse; Anab. lib. iii. Exactly the same state of things exists in the East, at present.

The above march and retreat of Darius Hystaspes, agrees so well with our Author's geography of Scythia, and the bordering nations, making some allowances for his misconceptions, that it may be suspected that he drew his materials for the *inland* part of the geography, scanty as they may be, from the history of this expedition. He might have collected them immediately from the Greeks, who were settled on the coast of the Euxine, and even of Scythia, when he visited it: which might have been within a century after the events happened.

It was during the *return* of the Persians, but not, according to the order of the events, till they were arrived at the borders of the Agathyrsi, that the king of Scythia bid them beware of doing any injury to the sepulchres of his ancestors; Melpom. 127. But as these sepulchres are described, in 71, to be situated in the extreme northern quarter of Scythia, and at the side of the Borysthenes, there should have intervened, between the Persian army and the sepulchres, at the time of this threat, a space nearly equal to the length of the territories of the Androphagi and Neuri, collectively.

"The sepulchres of the kings of SCYTHIA (says our Author, Melpom. 71.) are in the district of the *Gerrhi*—near the place where the Borysthenes *begins* to be navigable—and in the *remotest* part of Scythia." Again, in 53, "The course of this river may be pursued as far as the country called *Gerrhus*, through a voyage of 40 days: and is known to flow from the north."

The barbarous customs of Scythia, condemned to the same grave with their deceased prince, one of his favourite women, and several of his domestics; all of whom were previously strangled. They likewise buried with him, his horses, the choicest of his effects, and finally some *golden goblets;* for, says the Historian, "they possess neither *silver* nor *brass*." The common grave of these, was "a large quadrangular excavation, which they filled up with earth, and seemed to be emulous in their endeavours to raise as high a mound as possible." Melp. 71.

Modern discoveries abundantly prove the general truth of our Author's report, concerning the sepulchres of the ancient Scythians; if it be allowed that a part of the *tumuli*, found in the plains towards the upper branches of the *Irtish*, *Oby*, &c. are of so ancient a date: or, on the other hand, if the sepulchres in question are not so ancient, it at least proves, that the same custom prevailed amongst their descendants. It appears, that tumuli are scattered over the whole tract, from the borders of the Wolga and its western branches, to the lake Baikal.* Those amongst them, which have attracted the greatest notice, on the score of the gold and silver (but principally the former) contained in them, lie between the *Wolga* and the *Oby*: for those which are farther to the east, and more particularly, at the upper part of the *Jenisei*, have the utensils contained in them, of copper.†

It has not come to our knowledge, that any of these monuments have been found in the *Ukraine*; where the sepulchres described by Herodotus, should have been: however, it may be conceived, that it is a sufficient testimony of the general truth of his description, that they are found so far to the west, as the *southern* parts of *Russia*, and on the banks of the Okka,‡ Wolga, and Tanais: since much the same sort of customs, may have been supposed to exist, amongst the Scythians and Sarmatians generally: and it is certain that the *Sarmatians* and *seceding Scythians* occupied the tracts just mentioned.

It is true that Mr. Tooke (from whose writings, our knowledge

* These sepulchres are discovered only in plain and extensive deserts, formerly the abode of a nation which seems to have subsisted by pasturage and the produce of the chase. (Mr. Tooke; Archæologia, Vol. vii. p. 223.)

† The *gold*, and *copper*, found in the different sepulchres, gave occasion to a conjecture, that mines of those metals, existed in their respective neighbourhoods; which conjecture was verified by the discovery of the copper mines of *Sayane*; and of the gold mines of *Kolyvan*, in the tract adjoining to the *Altaian* mountains.

‡ The Okka is the south-west branch of the Wolga, and had its source amongst the Melanchlæni.

in this matter, as well as other more important ones, is more particularly derived,* and who is therefore entitled to our sincerest thanks,) supposes these monuments to be of a much more modern date: for he refers them to the Tartars of Jinghis Kan and their first successors: and thus much appears certain, that the *Kalmucs* are still in the habit of burying horses, arms, &c. with their chiefs. But as the Russians and Tartars themselves, appear to regard the articles found in some of the tombs, as being very ancient, and unlike what are now found amongst them; we should at least be led to conclude, that the monuments are of very different ages; and that, of course, there may be amongst them, those of the *ancient Scythians*, as well as of the *modern Tartars*, who succeeded them. The bodies wrapt in, or placed between, thin *sheets* of gold, may perhaps be referred to the latter class: but Mr. Tooke speaks also of *gold* and *silver utensils*, of *skeletons* of *horses*, as well as the *bones* of *men*; of *many bodies* deposited in the *same* grave; together with *weapons* and implements of war, and *domestic utensils*: so that, of whatsoever age these may have been, they prove the general statement of Herodotus, as to the custom of the people of that country. In some of the *tumuli*, were found *images* and *idols*.†

Many tumuli are found, in, and about, the banks of the Tanais, in the quarter towards the Mæotis. One of these, of considerable magnitude, and said to be the sepulchre of *Gulbedin*, is described in the *voyage to Tana*, by Barbaro, early in the 15th century. It stood about 60 miles above Tana, (which stood at or near Azoph,) at the side of the Tanais, and consequently on the border of the *Sarmatian* territory; according to the distribution of the space, by Herodotus. It was 80 paces in diameter, by 50 in height. This was dug into, in the expectation of finding a treasure; for it is related that one of the tumuli towards the *Altaian* mountains afforded no less than forty pounds weight of gold:‡ but although much cost and labour were bestowed on the work, Barbaro says,

* Archæologia, Vol. vii.; and Russia. † Archæol. Vol. vii. ‡ Ibid. Vol. ii.

that they only went to the depth of 10 paces; having intersected the tumulus by a trench of 8 paces in breadth, to that depth. Of course it could not be expected that they should have reached the tomb itself.

The substances found, were nothing more than the burnt bones of fishes, the remains of burnt wood, and canes; and of *grain*, of the *millet* kind; save only, half the handle of a small silver vessel, wrought into the form of the head of a snake. There were no bones of men, or of quadrupedes, found.

Mr. Tooke says generally, that some of the Russian and Siberian sepulchres, are *perfect tumuli*, raised to an enormous height; whilst others are almost level with the ground. Some are encompassed with a square wall of large quarry stones, &c. In some, the earth is excavated several fathoms deep; whilst others are only dug to a sufficient depth for covering the body. After this long digression, we return once more to the narrative.

It appears, that on the invasion of the Persians, the Scythians sent away their families, in the carriages in which *they usually dwelt*, together with such a portion of their cattle, as was not necessary to their immediate subsistence, or conveniency; to the *northward*; Melp. 121. Perhaps they were sent into the neighbourhood of the sepulchres, as a place that was meant to be defended to the last.

The expedition of Darius Hystaspes, although it terminated more fortunately for himself (personally,) than that of his predecessor Cyrus, against the Eastern Scythians (Massagetæ), yet, in respect of the wisdom that dictated the two expeditions, as well as in respect of their ultimate success, they seem to be nearly on a par. The Persians had nothing to boast of, in either case; any more than in their attack on the *Carduchians*, as related by Xenophon in the Anabasis, lib. iii. at the end.

Our Author assigns as the cause of the invasion of Scythia, by Darius Hystaspes, that " he was desirous of avenging on the Scy-

thians, the injuries they had formerly committed, by entering Media, and defeating those who opposed them. For during a period of 28 years they retained the sovereignty of Upper Asia, by expelling the Medes, *its ancient possessors;*" Melpomene, c. 1. A reason is never wanting for doing that, which our inclinations prompt us to.

The unsuccessful expedition of Darius, only provoked other attacks and menaces, from the Scythians; such as the attack of the Chersonesus of Thrace, and their alliance with the Spartans, by which it was agreed that the Scythians should invade *Media* (that is, the *empire* of *Persia)* by the way of the Phasis of Colchis, and the Spartans by way of Ephesus, until the two armies should form a junction; Erato, 40, and 84. This negotiation happened during the reign of Cleomenes.

The GOG and MAGOG of Ezekiel, must be understood to be meant for the SCYTHIANS, who made the above irruption into Media; and even carried their devastations into Palestine, and to the borders of Egypt. (See Herodotus, Melp. c. 1; and Clio, 103, *et seq.)* We are aware that the chronology as it stands, does not exactly bear us out; but as the prophecies of Ezekiel are allowed to have begun, at about 595 years before Christ, and the Scythians to have continued in Western Asia till about 605, it may be conceived that a small error in chronology, (and let it be remembered, that Sir Isaac Newton has made it appear probable, that an error of about 120 years, existed in the date of the foundation of Rome), may *change* the *order* of the two events.

The *description* of the host of GOG, designed also under the name of TOGARMAH of the *North*, is precisely Scythian, or Tartarian: "Coming like a *storm*, and covering the land, like a *cloud;*" Ezekiel, ch. xxxviii. verses 9, and 16. "Coming out of the *north; all* of them *riding* on *horses;*" ver. 15. "Bows and arrows," a part of their weapons, chap. xxxix. ver. 3. "I will smite thy *bow* out of thy left hand, and will cause thine *arrows* to fall out of thy right hand."

In Genesis, x. 2, MAGOG is the son of Japhet: as is GOMER,* who is mentioned by Ezekiel; "Gomer and all his bands." With the Tartars likewise, Gomari, is reckoned one of the sons of Japhet, and is also called KAIMAK, and held to be the ancestor of the *Kaimakians;* that is the *Kalmucs.*†

The Orientals have JAJUJE and MAJUJE, for our Gog and Magog: and there can be no doubt, but that the *g's* should be sounded soft, in those words. The Arabian geographers place these descendants of JAPHET, in the remotest known parts of Asia, *northward:* and beyond the Turks and Kalmucs.‡ There existed, in the north-west part of Asia, and no doubt still exists, a *rampart* or *mound*, with gates and towers, named by the Eastern writers, from Jajuje and Majuje; and referred, though erroneously, to Alexander.§ Some may perhaps conclude, that the famous wall of China, is intended, but this idea is completely done away by the authorities for its position; as will be made appear, during the inquiry concerning the nations, situated to the east of Scythia, in the next Section. It will only be necessary to state, in this place, that the country denominated from Jajuje and Majuje, by the Arabians, lay to the north, beyond those of the Turks and Kalmucs; and that it appears to have been bounded on the SW, by the great ridge of mountains, the continuation of *Altai*, which runs to the NW and north, through the Great Steppe; separating the northern and southern waters of Asia; and of which ridge, the mountains of

* Some derive the *Cimmerians*, or rather *Kimmerians*, from GOMER.

† So called by Ib Al Wardi, and Edrisi, and explained by D'Herbelot.

‡ Ib Al Wardi; Edrisi, D'Herbelot.

§ This error may have arisen from the report of Alexander's having fortified the pass of Derbend, at the Caspian; and which, perhaps was done by his lieutenants in Media, who might find such a barrier necessary, to keep out the northern hordes. Not that we suppose the Macedonians were the first who fortified it: they probably did no more than render complete, by a well constructed line, what others before them, had done imperfectly. All the works of Alexander bore the stamp of *grandeur*, combined with *utility*.

Ural are a branch, projecting to the west. So that the country of Jajuje and Majuje, contained, in the ideas of the people of Arabia and Persia, in the early times of Mahomedanism, the *northern* part of the Great Steppe, and the course of the river *Irtish*. There are also notices, (collected from the person sent by the Caliph Wathek in the 9th century, to view the rampart),* which serve to shew, that the people in question, possessed at an *earlier* period, that part of the Steppe also, towards the Caspian and Aral: and it may thence be inferred, that, in *more* early times, they were extended over other parts of the Steppe; that the Arabs applied to the Nomades, generally, the name of Jajuje and Majuje (or Gog and Magog); and that Ezekiel was adapting his language to those ideas.

The rampart abovementioned, seems to have been about midway, between Samarkand and Tobolsk; and may have been either the inclosure of a deserted city, for it had gates; or was made for the purpose of defending the passes of the mountains.†

Herodotus informs us, Melpom. 98, that Darius expected to return to the bridge on the Danube, in 60 days:‡ and, it is possible he might have supposed, that the Scythians would have been brought to terms, and the expedition completed, within that time: but taking Scythia under the *limits* assigned by Herodotus himself; that is between the Danube and Tanais; the extent is such, as to require 60 days, even for an army to *march through it*: and reckoning to the *embouchure* of the Tanais only, no less than 50. Indeed, had Scythia been confined within the supposed dimensions, that is, 4000 stadia; 53 days of *constant marching*, would have sufficed, both for the way out and home. But our Author does not say that it was the *intention* of the Persian to traverse the *whole*

* Edrisi, Climate VI. Part 9th: and Herbelot, article Jagiouge.

† M. D'Anville in the Mém. Acad. Inscrip. Vol. xxxi. places it much more to the east, and near the lake of the Kalmucks. But his *general* idea agrees with ours.

‡ Darius delivered to the Iönians, a cord with 60 knots on it, one of which they were to untie every day, and had liberty to depart when the knots were all loosened. Melp. 98, 99.

country of Scythia; and it might have been a fact current amongst the Iönians, that a cord with 60 knots on it, had been delivered to them, by Darius: and equally a fact that he expected to return within that time.

The circuit taken by Darius, cannot well be estimated at less than a march of 150 days, or five months: and had he barely gone to the mouth of the Tanais, and back again, we have seen that 100 days were required, although no *halts* are allowed for; and which could not be dispensed with. Therefore, when it is stated that the 60 days were *not expired*, after the Persians had passed the borders of the Agathyrsi, on their *return*; Melp. 132; and had *not long expired* when Darius came to the bridge, 136, this must surely be an error; although he might have *expected* to return about that time.

It is said, Melp. 87, that, "in this expedition he was accompanied by all the nations which acknowledged his authority, amounting, cavalry included, to 70,000 men,* independent of his fleet, which consisted of 600 ships. The Iönians and Æolians, as a part of his new subjects, together with the inhabitants of the Hellespont, had assembled a fleet to assist in this expedition; 89; and a bridge had previously been ordered to be thrown across the *Thracian Bosphorus*; 83.†

The difficulty of supplying such an army with provisions, in an enemy's country, and that country not generally an agricultural one, is but too obvious to practical people; although the numbers were so small, in comparison with those with which Xerxes invaded Greece. We must therefore conceive that the principal intention of collecting so large a fleet, was to secure a supply of provisions, whilst the army might remain in the neighbourhood of the Euxine and Mæotis; and which, no doubt, might have been accomplished,

* We are aware that some copies have 700,000: and Justin says the same, lib. ii. c. 5. The first number is certainly moderate for a regal Persian army, but the nature of the country in which the war was made, must be considered.

† The fleet of Xerxes employed in the invasion of Greece consisted of 3000 ships.

so long as the army could preserve a communication with the coast. The Greek colonists along the Euxine were probably compelled to assist in this department; to which it may be supposed, their habits of life rendered them more competent, than the Persians themselves.

Another use of the fleet, was obviously to waft the army and its equipage across the wide rivers of Thrace and Scythia; which may even be collected from the history of the bridge over the Danube. And although this latter was left standing, as has been before related, by which the Persians, must of course have lost the immediate use of the vessels that composed it, yet these unquestionably were of the smaller kind; as may be inferred from the number used on a subsequent occasion, by Xerxes. Nor could they have been *very* numerous, either. Perhaps $\frac{1}{8}$ of the whole number might have sufficed.

It seems to be clear, by Melpom. 89, that only a *detachment* of the fleet was sent to the Danube: and that it was sent, whilst the bridge over the Bosphorus yet remained. In effect, no other intention can well be supposed, in assembling *so large* a fleet, but the supply of the army in the enemy's country; nor would the purpose have been defeated, by the proportion of vessels left in the Danube.

As the bridges thrown across the *Bosphorus* and *Hellespont*, by DARIUS HYSTASPES and his son and successor XERXES, have been very much the subject of history and conversation, we shall mention some circumstances relating to them, in this place.

Concerning the Bridges, thrown across the Bosphorus and Hellespont, by Darius Hystaspes, *and* Xerxes.

These bridges, as being intended to serve the purposes of different expeditions, were placed in situations, widely distant from

each other: that of Darius, which was for the purpose of transporting his army into Scythia, through Thrace, by the *right*, was laid across the *Bosphorus*, now called the *Canal* of *Constantinople*; whilst that of Xerxes, which was to pass his army into Greece, through the same country of Thrace, by the *left*, was thrown across the *Hellespont*; now the passage of the *Dardanelles*.* The bridges therefore were about 150 miles asunder, and the sea of Marmora (or the Propontis), lay between them: but notwithstanding the positions of the bridges, the roads taken by these different princes through Thrace, must have approached within about half that distance of each other: and had it been a matter of indifference to Xerxes, whether he took the right, or the left hand, road, through Asia Minor, it would have been a measure of greater security, as well as of facility, to have laid his bridge over the Bosphorus, the *narrowest* and *least exposed* of the two straits, than over the Hellespont; since he was determined, at all events, to pass into Europe, over a bridge. See the Map No. IV. opposite.

But these works appear to partake infinitely more of vain-glory than of use: like that of cutting through the Isthmus of Mount Athos, instead of drawing the vessels across (if they were dubious of being able to sail round it); which is remarked by our Author, in Polym. 24.

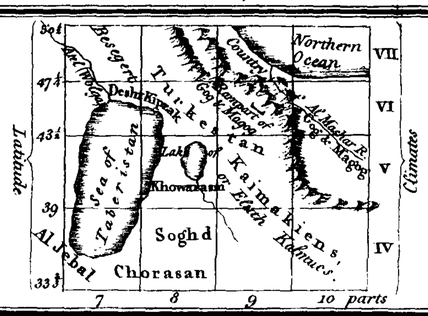
Alexander was by no means emulous of the fame of Darius, or of Xerxes, in this point: being content with transporting his army across the Hellespont, in vessels, navigated in the usual way. And it must appear to every person, that, in a strait, narrow enough to admit of a bridge, vessels might be drawn across with ropes, so as to land an army in a mode almost equally effectual, with that afforded by a bridge: and, considered in respect of delay, and expence, on much easier terms, than would be required to place the vessels in a permanent form.

* This name was derived from the neighbouring city of *Dardanus*, which Herodotus says was very near to Abydos. Polym. 43.

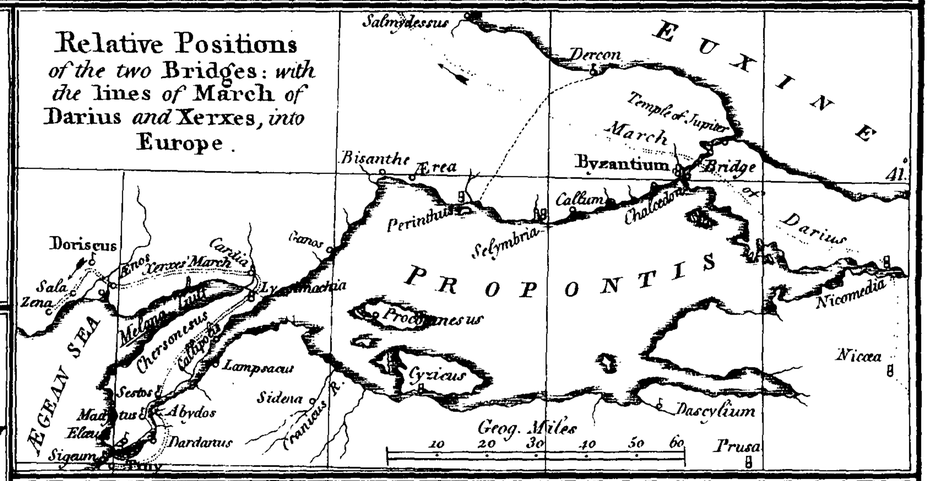
MAP *to explain the Positions of the* Bridges, *over the* Hellespont *and* Bosphorus; *&c.*

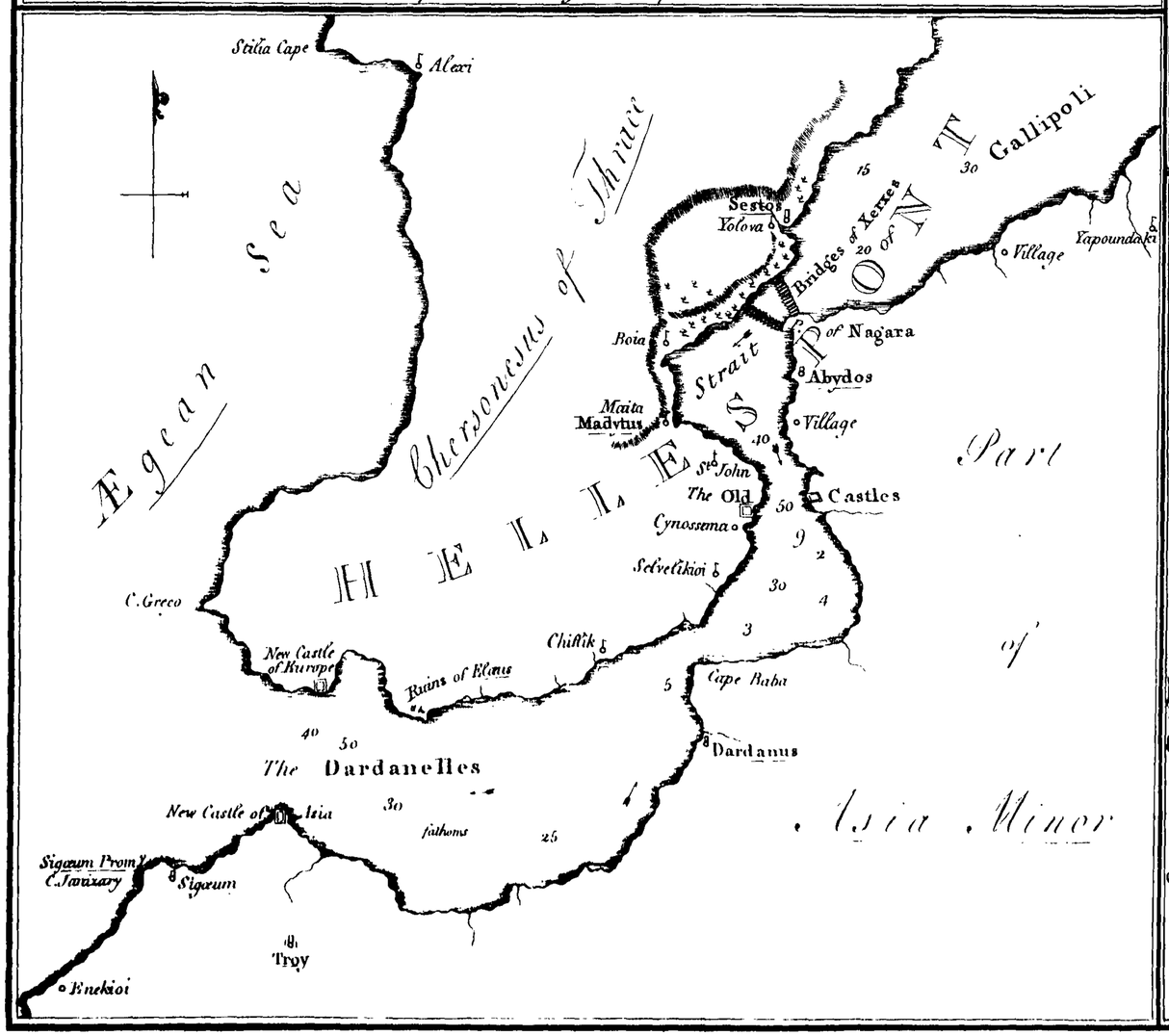
Sketch *to explain* **Edrisi's** *Idea of the position of* **Gog & Magog**, *&c*

See p. 162 & seq.



Relative Positions *of the two* **Bridges**: *with the* **lines of March** *of* **Darius** *and* **Xerxes**, *into* **Europe**.







J. Walker sculp.

Published according to Act of Parliament, by James Rennell, Dec^r 6^th 1799.

If there could be found a reason to justify the project of a bridge, it would have been that of *expected resistance;* which might make it necessary to pour great numbers at once, on the opposite shore: but circumstances were so totally different, that, whilst Xerxes transported, over a bridge, an army, whose numbers are reported too great to admit of belief, into a country where there were none on the spot to oppose it; Alexander, on the contrary, transported a comparatively small army, in vessels, into a hostile country, where incredible numbers were prepared to oppose him. In every point of view, then, these magnificent plans occasioned a waste of labour; and of wealth, the means of war; only to accomplish an ordinary purpose, in such a way, as to strike the vulgar in all ages, with astonishment. For ALEXANDER, and after him the OTTOMANS, crossed these straits with less parade, but with infinitely more effect, than the Persians.

Herodotus, after describing the Bosphorus of Thrace, (as well as the Propontis, Hellespont, and Euxine; Melpom. 85, *et seq.*) says, that it is about 120 stadia in length, and 4 wide at the entrance (into the Euxine).* He also says, 87, "I conjecture that the bridge was placed nearly midway between Byzantium and the temple at the entrance of the Euxine." And although he seems to speak, in 85, as if the bridge had been at Chalcedon, yet it must only be taken for a loose and general way of speaking; Chalcedon being the nearest town of note to the bridge. "Darius (says he) marched from Susa to where the bridge had been thrown over the Bosphorus at Chalcedon." Here he spoke *generally;* in the other case *critically*. Besides, Chalcedon is situated *beyond* the opening of the Bosphorus, into the Propontis; and has an expanse of water of more than double the breadth of the Bosphorus, between it and Constantinople.†

* Polybius, lib. iv. c. 5, says that the narrow part is 5 stadia in breadth: Pliny, iv. c. 12, says 4 stadia.

† For the particular geography of the two straits, and the positions of the bridges, the reader is referred to the opposite Map.

M. Tournefort thought the narrowest part of the canal, was at the *old* castles; which appear to be about $\frac{1}{3}$ of the way from Constantinople towards the Euxine: but, he adds, that the canal is *very nearly* as narrow, at a place within a mile and half of the seraglio. Now, he guessed the narrowest part to be 800 paces in breadth: but whether he means *double* steps, that is, the return of the same foot, or *single* steps, is not told: it is certain that the latter alone, can be inferred, from the circumstances of the case.*

Mr. Gibbon, who may be supposed to have consulted many modern authorities, says 500 paces; which, being probably meant for those of 5 feet, according to his usual mode of reckoning, give 2500 feet.† And as we take the 4 stades of Herodotus at about 500 feet each, giving an aggregate of about 2000, the difference between these two accounts is not very great. Many persons may be surprised at finding such differences amongst well informed men; but the truth is, that *guesses* concerning the breadth of rivers and straits are so exceedingly vague, that it is difficult to determine what authority to adopt. In the present case it seems that we may adopt the 4 stades of our Author, and fix the place of the bridge at the old castles.

By the descriptions of the *Bosphorus*, it would appear, on the whole, laying out of the question the magnificent scenery on the side towards Constantinople, that it is not ill represented by our *Menai*, the beautiful arm of the sea that separates Anglesea from the main Island.‡

Concerning the mode of constructing the bridge over this canal, there are no particulars: but as our Historian has given a very particular account of that thrown over the Hellespont, not many years

* Vol. ii. letter 8. It is obvious that 800 paces of $2\frac{1}{2}$ feet, will agree generally with the reports of Pliny and Herodotus.

† Vol. iii. p. 6.

‡ This strait appeared to the Author's judgment, from crossing it, as well as from viewing it from both sides, to be about $\frac{1}{4}$ of a mile broad, at *Bangor* ferry; the narrowest part that he saw.

afterwards, the reader may easily form an idea, how the other was made; having regard only to this circumstance, that the Hellespont was so much wider and more exposed, particularly to the wind termed Hellespontian,* than the other, that greater precautions were necessary to its preservation: and it may be, that the vessels were placed much nearer to each other.

There seems to be no question, that the *bridge* of Xerxes, or rather *bridges* (for there were *two*), over the Hellespont, were placed at the narrowest part of the strait, 14 or 15 miles above the entrance, from the Egean sea; and at no great distance to the northward of the *old* castles of the *Dardanelles*; (as they are called, in contradistinction to the *new* castles, at the entrance).† At this part of the strait stood the city of *Sestos*, on the European side; *Abydos* on that of Asia: but not opposite to each other, because the distance between them was 30 stadia, Strabo, p. 591; and the strait itself not above a mile wide, at the utmost.

It seems to be allowed, that the site of Sestos is marked by the ruins of *Zemenic*, the first town taken by the Turks when they passed over into Europe, under Orkhan, about 1356. (D'Anville Geog. Ancienne, Vol. i. 289; and Tournefort, Vol. ii. letter 4.)‡ Abydos is also marked by other ruins, not far from the point of *Nagara*; Geog. Anc. ii. 13. Again, *Maita*, situated on the European side, at a few miles from Zemenic, towards the entrance of the Dardanelles, and beyond Abydos, appears to be the *Madytis* of Herodotus; Polym. 33; where he says that the coast of the Thracian Chersonesus, is rough and woody, in that part.

The narrowest part of the passage, appears to be nearest to,

* That is, a strong *easterly* wind (Polym. 188), or what seamen call in modern times, a *Levanter*.

† The new castles at the entrance from the Archipelago, are more than four miles asunder. Tournefort.

‡ *Zemenic*, in a very useful Map of the Propontis, and the two straits, published by Mr. Faden, in 1786, is placed about 5 miles above Sestos, and at the wide part of the Hellespont. We know not the authority for its position.

though by no means *at*, the ruins taken for those of Abydos: but our Author speaks as if one end of the bridge or bridges, had actually been placed there; for he says, Polym. 34, that the strait is seven stadia in breadth, at Abydos; and in Melpom. 85, he assigns this breadth to the narrowest part of the strait. Strabo places the bridges where they no doubt stood, *between* the two cities of Sestos and Abydos; but not adjoining to either; page 591. And we conclude that they extended from different parts of the point, or rather *promontory*, of Nagara, to the nearest part of the opposite shore. This part is spoken of, by the ancient authors (Polybius in particular), as the ordinary pass over the Hellespont: and it seems to have been equally in use, in modern times, by what is said above, concerning the invasion of Europe by the Ottomans.

The ancients agree, almost universally, in representing the breadth of this strait to be 7 stadia, at the narrowest part. Herodotus says so, in Melp. 85, and repeats it, Polym. 34. Strabo also, in p. 591: Pliny, in lib. iv. c. 12; and in vi. 1, he gives 875 paces, which are equal to 7 *Roman* stades, or $\frac{7}{8}$ of a mile. Polybius, lib. xvi. c. 7, allows only *two* stadia; but it may be suspected that the text is corrupted. Procopius, who had a good opportunity of viewing it, is silent.

Of the modern authorities, M. Tournefort, Vol. ii. letter 4, without giving any positive notices, appears to allow it the breadth of a mile. Dr. Pococke only gives it on the authority of the ancients, at 7 stadia; which, however, implies that he *admitted* it: and as he seems to consider a stade, at all times, as the eighth part of a mile, this differs but little from the other authorities. (He reckons the Hellespont 26 miles in length.)

But Mr. Gibbon allows no more than 500 paces; that is, the same as he allows to the Bosphorus. The ancients evidently meant to describe a *broader* strait, *here*, than at the Bosphorus of Thrace.*

* If the term *Bosphorus* has been properly applied to the canal of Constantinople, as the measure of distance which an ox may with facility swim, it cannot have

It is remarkable that the above celebrated author, should have adopted this idea of the breadth of the strait, against the statements of the most celebrated of the ancient geographers, and which are not contradicted by the moderns in general; and it is also remarkable that he should censure M. D'Anville (perhaps in some instances, justly), for being " too fond of *imaginary* measures, for the purpose of rendering ancient writers *as accurate as himself*," (Vol. iii. page 9,) whilst at the same time, he has in fact, adopted the scale of M. D'Anville's stade, on this very occasion. This great geographer had an idea that the ancients had a stade of 51 toises, or about 330 English feet, (Mes. Itin. p. 69, *et seq.)* and which he has applied to the dimensions of Babylon, &c. It is obvious that 7 such stadia are equal to about 500 paces, or half a Roman mile; which is the breadth allowed by Mr. Gibbon.

If the number of vessels used in the construction of the bridges, could be depended on, one must suppose the narrow part of the strait to be about an English mile in breadth, which goes but little beyond Pococke's idea, and agrees with that of Tournefort: but goes beyond that of Herodotus, even if he intended a stade of 600 Grecian feet, by more than 1000 feet.

It is not likely that ever we shall have a true statement of the breadth of this strait, since any attempt to ascertain it by measurement, would subject the operator (who must necessarily be an European) to great hazard: and the guesses of people, as we have said before, are too vague to be depended on; especially as no opportunity offers (that we know of), of traversing it from side to side.*

been well applied to the *Cimmerian* strait, which is not only wider than the Dardanelles, but is even 3 English miles broad, at the place where the lands approach nearest to each other, at *Jenikale;* and about $1\frac{1}{2}$, where straitened by the chain of islands, opposite to the battery near *Kertsch.*

* One of the best opportunities that has ever occurred, seems to have been neglected. Baron Tott, himself an engineer, and entrusted by the Turks with the exa-

The description of the famous bridge of Xerxes, is given in a note from our Author; but how circumstantially soever given, it is by no means clear.* *Two distinct bridges*, each consisting of a line of ships, are intended by the description: for one is said to be towards the Euxine, the other towards the Hellespont, or Ægæan sea. They were, moreover, applied to different uses; the first being for the army in general, the other for the followers, and beasts of burthen; Polym. 55. Thus far is clear; as well as the mode of completing the *ways*, over the vessels on which they rested; but the *disposition* of the vessels in *one* of the lines, is ambiguous, because an idea is given that the vessels in it were placed

mination of the defences of the Dardanelles, by which he ought to have been possessed of the certain means of determining the question, says, that the narrow part of the strait is 300, or 400 toises broad. How inaccurate, for an engineer! The highest evaluation of this distance, is less than half a mile.

Since the above was written, a RUSSIAN squadron has passed the Dardanelles!

* "They connected together ships of different kinds, some *long* vessels of 50 oars, others three-banked gallies, to the number of 360 on the side towards the Euxine sea, and 313 on that of the Hellespont. The former of these were placed transversely, but the latter, to diminish the strain upon the cables, in the direction of the current. —When these vessels were firmly connected to each other, they were secured on each side by anchors of great length; on the upper side, because of the winds which set in from the Euxine; on the lower towards the Ægean sea, on account of the south and south-east winds. They left however, openings in three places, sufficient to afford a passage for light vessels, which might have occasion to sail into the Euxine, or from it: having performed this, they extended cables from the shore, stretching them upon large capstans of wood; for this purpose they did not employ a number of separate cables, but united two of white flax with four of biblos. These were alike in thickness, and apparently so in goodness, but those of flax were in proportion much the more solid, weighing not less than a talent to every cubit. When the pass was thus secured, they sawed out rafters of wood, making their length equal to the space required for the bridge; these they laid in order across upon the extended cables, and then bound them fast together. They next brought unwrought wood, which they placed very regularly upon the rafters; over all they threw earth, which they raised to a proper height, and finished all by a fence on each side, that the horses and other beasts of burthen might not be terrified by looking down on the sea. Polym. 36.

lengthwise, *across* the strait; whilst those in the *other* line, were placed *side* by *side*, or with their length *parallel* to the strait. The latter appears perfectly rational; the other highly improbable; because a strong current prevails for the most part, the water flowing out of the Euxine into the *Propontis*, and *Mediterranean*; and more particularly when northerly winds prevail; so that it would be difficult to keep ships in their stations, when presenting their broadsides to the wind and current.* Besides, it requires little argument to prove, that this arrangement would have been the most inconvenient possible, for a bridge; could it have been rendered permanent.

Some other meaning therefore, must be sought for, not only from the improbability of so flagrant a departure from the dictates of common sense and experience, but because that the numbers in the two lines differ no more than a 7th or 8th part. Now, it is well known, that even the ships of this time, are about *four* times as long as they are broad, in their upper works: and there is reason to believe, from the dimensions of some ancient ships, left on record, that these were at least *five*, if not *five and a half*, times as long as they were broad. We shall here detain the reader a moment, in order to explain our ideas respecting certain properties of the ancient ships, which apply more particularly to the present argument.

It has been said that the ancient ships (of the Greeks, &c.) were

* This current, as we have seen, Polymnia, c. 36, is spoken of, in very general terms by Herodotus. It is also mentioned by travellers; and its effect, in preventing ships from entering the Dardanelles from the south, when a contrary wind prevails, is familiarly known to seamen. M. Tournefort thus speaks of it:

"The waters that pass through this canal, from out of the *Propontis*, are as rapid as if they flowed beneath a bridge: when the north wind blows, no ship can enter; but when it is from the south, you hardly perceive any current." Vol. ii. lett. 4.

The current in the canal of Constantinople *(Bosphorus)*, is still stronger, as the stream formed of the surplus waters of the Euxine, is more confined there, than in the Hellespont. Ib. letter 8.

very much *longer* in proportion to their breadth, than the modern ones. We would here be understood to mean the *ships of war*, which from their proportions were styled LONG ships, in contradistinction to the merchant ships, whose swelling forms, which were better adapted to stowage, gave occasion to their being called ROUND ships. It may be conceived that these were of much the same proportional dimensions with ours, in respect of length and breadth, but had bottoms nearly flat.

But the fighting ships required a degree of velocity at the moment of attack: and, as the mode of warfare, might require it to be exerted in any line of direction, perhaps opposite to that of the wind, nothing could accomplish this velocity, but the application of oars. It therefore became necessary to increase the length of the ship, to the utmost bounds of safety, in order to gain room for such a number of oars, as were required to put so great a body in motion. And hence, doubtless, the origin of the *long* ship, whose dimensions appeared so singular, as to call for the term, which was with so much propriety applied to it. The proportional dimensions would also have the effect of enabling them to divide the fluid, with greater ease, in proportion to the impulse of the oars; or of the sails, when sailing before the wind: but it may be observed, by the representations of ancient ships (and which appear to be generally ships of war), that they spread an exceeding small proportion of sail; which was doubtless owing to their want of breadth. This defect, together with the flatness of the bottom, rendered them unfit to ply to windward: so that when they wanted to proceed in that line of direction, the oars were the only means of accomplishing it. When sailing before the wind, the flatness had its advantages.

It may be conceived that no ships, at any period of the world's age, were *able* to spread so much canvas,* in proportion to their

* It may justly be suspected that our ships are very much over-masted: as a proof of it, ships with *jury* masts sail as well, under ordinary circumstances, as with what

length, as at present: a proof that the ancients were very far behind, in naval science. The invention of artillery, has certainly increased the *dimensions* of ships of war; but the progress of *improvement* has even far outstripped the increase of bulk.

It would be unnecessary to insist any farther on the flatness of those vessels. But it may be remarked, that the *long* ships of Nearchus, built by Alexander in the Panjab, descended the Indus, and its adjacent rivers, in which there must have been a great many shallow places. They also entered *tide* harbours on the coast of Persia, in which there is no great depth of water. And moreover, both these, and the ships of Xerxes were frequently *drawn ashore*; which circumstance, proves at once the flatness of their bottoms, and their confined dimensions.

There is a passage in Polybius (lib. iv. c. 5.) which implies that the large ships of his time (some of which carried 420 men), drew about 15 feet of water, only. We now return to our proper subject.

Since the Hellespont, in the neighbourhood of Abydos, has a very considerable bend in its course, first running northward from Abydos towards Sestos, and then taking a pretty sharp turn to the *eastward*; may it not have been, that the two lines of ships were disposed on different sides of the *angle* just mentioned, by which it might truly be said, that the ships in one line presented their *heads* to the Euxine, the other their *sides*, although the heads of both were presented to the current? The different numbers in the

are termed *proper* masts. In light winds, it is certain that too much canvas cannot be spread: but, in this age of improvement, cannot temporary sails be invented, so as, in *some measure*, to compensate the defect? The savings, in point of stores, would be immense; in the wear of ships, incalculable!

It is well known, that on *emergencies*, when the wind is light, boats may be used for towing: and the velocity communicated by the oars of the boats of a ship of war, will *far* overbalance the loss occasioned by sails of reduced dimensions.

Vitruvius has said that it is better to have a house too *small* for *a day* than *too big* for *a year*: is not this saying, in some measure applicable to the present subject?

two lines certainly indicate *different breadths* of the strait, and which can only be accounted for, by their being at some distance from each other: for it cannot be supposed that the line was placed obliquely across the strait.

The cables extended from each shore, appear to have been for the sole purpose of supporting the *bridge-ways*. The ships were kept in their places, by anchors ahead and astern; by the lateral pressure of each other, and by side fastenings.

It remains that something should be said, concerning the space occupied by the ships, according to the numbers given in the text; and its supposed proportion to the breadth of the strait.

The numbers given are are 360 in one line, 313, or 314 in the other. Let it be admitted that the difference arises *chiefly* from the different breadths of the strait, which might be many hundred feet wider at one bridge, than at the other. But if it was no wider at the narrowest part than 7 stadia, say 3500 feet, the vessels ought not to have been broader than 11 feet; in other words, the dimensions of a barge: and it appears that the bridge was evidently composed of vessels of a larger class than that, although it may be difficult to fix the determinate size of them.

In Polym. 21, it is said that "long ships were *prepared* to serve as *bridges*;" which implies that they were of a different kind from the *other* ships, mentioned in the same article; which were, *ships* of *war*, (implied to be *very large*, and of which there were a great number in the fleet); *transports* for cavalry, and troops; and *provision* vessels. Now, in Polym. 184, there is a class of vessels of 50 oars, manned with 80 men only; and which were the smallest class of *fighting* ships; the largest having crews of 230.* These

* Perhaps, to bring the matter nearer to our own ideas, the ships, with crews of 230 may be regarded as *line of battle*; those of 80, as *frigates* and *sloops* of *war*. But the Romans and Carthaginians in the great contest for naval dominion, had crews of 420, of which, 120 were soldiers, or *marines*.

It appears from Polym. 97, that a great proportion of the fleet of Xerxes, which

then, we must suppose to have been chiefly used in the construction of the bridges: for it is expressly said, Polym. 36, that those of 50 oars were made use of: and it is evident, that, if the crews consisted of no more than 80, the oars in general must have been managed single-handed. And it may be inferred, that a vessel moved by this power, could not have been of very great dimensions. Moreover, the ancients crowded their crews into a very small space; as is shewn by the small depth of water required to float the ships of Nearchus; so that, taking all circumstances into consideration, it may be concluded, that these vessels were of no greater dimensions than 80 to 100 tons: that they were very *narrow*, in proportion to their length; and might not be more than 15 to 16 feet broad.

We are aware that *three-banked* gallies were also used in the bridge: but as the *others* are expressly said to be intended for the purpose of bridges, it may be supposed that only a few large ships were used; and that, to accomplish a purpose, which cannot, at this distance of time, be understood: for it appears evident, that, the former size of vessels was fully equal to the superincumbent weight of the bridge-ways, and as many men, horses, or carriages, as could stand on them, at a time; exclusive of the necessary quantity of ballast to keep them steady: and therefore a larger kind was not required.* The Hellespont has not an expanse of

consisted altogether of 3000 vessels, were of 30 and 50 oars: and that the fighting ships of this fleet were in number about 1200. Polym. 184.

* When boats or pontoons are placed close together, as happened *here*, those of a very moderate size will suffice, in respect of any weight that could be required to be laid on them. Witness the ordinary *pontoons* used in war, and in bridges of communication. Coal barges are equal to any purpose of this kind, where there is no great agitation of the water, although placed at some distance apart. It may be urged, that, in the present case, the situation required close, or decked vessels; and it is certain that something must be allowed on this score, where the breadth was a mile, or thereabouts, and, at times, a current; but we are of opinion notwithstanding, that vessels of the size of the smallest *coasting craft*, were adequate to such a purpose.

water sufficient to admit of any very great agitation from the winds; and in particular from the southern quarter, where alone, from its blowing in opposition to the current, a dangerous wave might have been raised, had the conformation of the strait been different.*

It is certain that 313 vessels of 15 to 16 feet in breadth would occupy a space, equal to about 4850 feet, or about 400 feet short of an English mile. And if there was any proportion of *large* vessels amongst them, the required space would probably be increased to a full mile. Therefore, at all events, it must be allowed, that there is no great difference between the *calculation* of the space occupied by the vessels, taken on a reasonable footing, and the *allowed* breadth of the strait, by those who have *seen* it; which appears to be from $\frac{7}{8}$ of a mile, to a mile: for whatsoever the length of the stadium of Herodotus may have been, Dr. Pococke certainly meant by his stade, the eighth of a mile. And thus we close our speculations on this project, which may be classed with many other of the follies, wrought by those, who having at their disposal, the labour of myriads, employed it to a useless purpose.

It may well be supposed that the success of Darius Hystaspes, in making his bridge over the Bosphorus, encouraged his son Xerxes, to try a like experiment on the Hellespont; where, the greater breadth of the sea, and the exposure of the situation, rendered it a more difficult task.

Of the bridge of Darius across the Danube no description is given. It is probable that it could not have been of less extent than that at the Bosphorus; but from the regular and constant stream of the river, the vessels could with more ease be kept in their stations, than in a place where the current would often be so slack, as to allow the force of the wind to preponderate.

* If the direction of the wind had been mentioned, one might have guessed the position of Xerxes's first bridge, which was destroyed by a tempest.

SECTION VII.

OF THE COUNTRIES SITUATED BEYOND THE EUXINE SCYTHIA, TO THE EASTWARD, AND NORTH-EASTWARD.

Nations, or Tribes, situated beyond Scythia. — Iyrcæ, *or* Turcæ — Seceding *Royal Scythians* — Argippæi — Issedones, Arimaspians, *and* Gryphins. — *The* Issedones *answer to the* Oigurs, Yugures, *or* Eluths. — *Error of Herodotus, in placing the* Issedones *opposite to the* Massagetæ. — Aral *Lake mistaken for a Part of the* Caspian *Sea.* — *Argippæi and Arimaspi placed: the former at the Mountains of the Great Steppe; the latter at the* Altaian, *or* Golden *Mountains.* — *The* Gold *of the Arimaspi derived from the Province of* Kolyvan, *bordering on* Altai. — Seceding *Scythians supposed to have inhabited the* Desht Kipzak, *and Part of the* Great Steppe — Turcæ, *or* Iyrcæ, *taken for the* Torgauti — Riphæan *Mountains.* — Altaian *Mountains, the extreme Boundary of the Knowledge of Herodotus, Eastward.* — *Particulars respecting the* Argippæi *and* Issedones: *the former celebrated for their Probity; the latter a polished People.* — Arimaspian *Verses.* — *Herodotus in doubt, concerning the Northern and Eastern Boundary of Europe; and silent concerning the Southern Boundary.* — *Northern Ocean* — Hyperboreans — *Country and Rampart of* Gog *and* Magog. — *An imputed Error of Herodotus, done away.* — *Hyperboreans send Offerings to* Delos — *Melancholy Fate of Travellers, who perish in a foreign Land, whilst in Pursuit of Knowledge* — *Communication between Individuals of distant Nations, to be encouraged.* — *Apology for harmless Superstition, in uninformed Minds.* — *General Observations.*

We shall next endeavour to collect the ideas of Herodotus, respecting the countries situated *beyond* the Western, or Euxine Scythia; as also concerning the north part of Europe, generally;

and the tract, which from its relative situation, was named the country of the HYPERBOREANS. It must be recollected that, according to *his* system, *all* of the above tracts were included in EUROPE; since the Colchian Phasis, and the country of the Massagetæ, were by him, regarded as the northern frontiers of ASIA.

It has been suggested, that Herodotus derived his knowledge of Scythia, in a great measure, from the history of the Expedition of Darius, which must then have been fresh in the memories of the Greeks, settled on the borders of the Euxine. And when it is farther remarked, that the *Thyssagetæ* are the last people, whose country is particularly described, and placed; that opinion receives additional strength: for the Thyssagetæ were situated at the extreme boundary of his expedition, eastward.

Beyond the Thyssagetæ (EASTWARD; for so it must be understood by the context: for immediately afterwards, our Author, speaking of the *Royal Scythians* who had *seceded* from the others, says, "advancing from *this* people *still nearer* to the east"), were the IYRCÆ, who, like the Thyssagetæ, lived by the chase. Melpom. 22.*

The Royal Scythians who had seceded from those at the Euxine, established themselves, as we have just seen, on the *east* of the *Iyrcæ;* but no particulars concerning them are given.

"Thus far," continues our Author, Melp. 23, "the whole country is *flat*, and the soil *excellent;* but beyond *these* Scythians, it becomes *barren* and *stony*. After travelling over a considerable space, a people are found living at the foot of some *lofty mountains* —these are called ARGIPPÆI." He farther observes, Melp. 24, that, "as far as the Argippæi, the knowledge of the country is clear and satisfactory; and may be obtained from the Scythians, who have frequent communication with them: from the Greeks

* The reader is referred to the Maps No. II. and V. for an explanation of the actual geography of this quarter: and to No. I. for our Author's ideas of the relative positions.

of the port on the Borysthenes; and from many other places of trade on the Euxine. As these nations have seven different languages, the Scythians who communicate with them, have occasion for as many interpreters."

" Beyond the Argippæi, no certain intelligence is to be had; a chain of *lofty* and *inaccessible* mountains precluding all discovery. —To the *east* of the *Argippæi*, it is beyond all doubt that the country is possessed by the ISSEDONES; but beyond them, to the *north*, neither the Issedones nor the Argippæi know any thing more, than I have already related:" Melpom. 25. " The Issedones themselves affirm, that the country *beyond* them, (we conclude that to the *eastward* is meant) is inhabited by a race of men who have but *one* eye; and by GRYPHINS, who are guardians of the gold.— Such is the information which the Scythians have from the Issedones, and we from the Scythians: in the Scythian tongue they are called ARIMASPIANS, from *Arima* the Scythian word for *one*; and *spu*, an *eye*." Melpom. 27.

Thus we collect the extent of the knowledge of Herodotus, eastward, in the parallel of Western Scythia; but as we have no scale of distance, by which to regulate either the positions of the several intermediate nations, or of the most remote one, all is left to conjecture, in our Author. Others, however, throw some light on the position of the country of the Issedones; and Ptolemy, in particular. His knowledge of the detail of the eastern geography, was extensive, in this quarter. By him, the Issedones are so placed, as to answer to the OIGURS, or YUGURES, who inhabit the proper seat of the Kalmucs; bordering immediately on the north-east of *Casia*, which latter is easily recognized in the country of *Kashgur*. (See Memoir of the Map of Hindoostan, section III.) The *Echardæ* of this author, which name designs a nation or people in the region of SERICA,* and between the Issedones of Scythia, and

* The country from whence the Romans had their *silk*; and the silk, its *name*. See Ptolemy's Asia, Tab. vii. and viii.

those of Serica, has a near affinity in sound to *Oigur*, and strengthens the supposition.

It is certain, that the space between the seats of the Thyssagetæ, and of the Issedones, appears on the Map to be much too large to have been occupied by the *three* nations alone, described by Herodotus; it being about 1200 G. miles. But accuracy is not to be expected, in this case; and it may be, that some tribes are omitted. It must not, however, be forgotten, that they were pastoral tribes, and required a great deal of room.

Herodotus himself supposed, that the *Issedones* were situated *opposite* to the *Massagetæ*, who were at the east of the Caspian sea, or rather Aral;* but the Issedones were, as will appear, very much farther to the east. Again, Pliny supposed both *them*, and the *Arimaspians* to be at no great distance from the Mæotis and Tanais, lib. iv. c. 12: but probably neither of these authors had any rule for placing them: and it is to be remarked of Pliny, that his geography carries every thing too far to the *west* in this quarter.†

Herodotus, thus expresses himself, respecting the Issedones and Massagetæ; Clio, 201.

"The Massagetæ, a great and powerful nation, whose territories extend beyond the river *Araxes* (meaning the *Jaxartes)*, to the extreme parts of the east,—are OPPOSITE to the Issedones; and are by some esteemed a Scythian nation." And, in 204, he says that "the Massagetæ inhabit a considerable part of a vast plain, which bounds the Caspian (or rather Aral), on the east." So that we fix the Massagetæ, in the great plain occupied by the Middle *Horde* of the KIRGEES, adjacent to the river *Sirr*, or rather *Sirt*, which is the

* In all the works of the *European* geographers, as well ancient as modern, to the present century, the ARAL sea must be understood to be *included* in the CASPIAN: since they knew but of *one* expanse of water, in that quarter; for the *Cyrus* and *Araxes*, the *Oxus* and *Jaxartes*, were all supposed to fall into the same sea. The Arabian and Persian geographers, on the contrary, discriminated them, from the earliest times.

† More will be said on this subject, in the sequel.

Jaxartes. Our Author, as has been said, supposed the Issedones to be situated OPPOSITE to the Massagetæ, which by the context can only be understood, to the NORTH, or under the same meridian: for, in tracing the chain of tribes, or nations, from the Tanais, to the Issedones, he evidently proceeds *eastward*, and speaks of the plain of the Massagetæ, as a position, *opposite* to some point in that chain. Moreover, in tracing this chain, he keeps wide to the north of the Caspian; and concludes with saying, that nothing is *certainly known*, *beyond* the Issedones. Now, having said that the Massagetæ extended *eastward*, *indefinitely*, from the borders of the Caspian, and the banks of the Jaxartes, they could not be situated to the *east* of the Issedones, beyond whom, he had just said, *nothing certain* was known. The inference clearly is, that, by *opposite*, was meant in the same meridian: and that, in his idea, the Massagetæ lay to the SOUTH, along the Aral and Jaxartes; the Issedones to the NORTH, and about the parallel of the Thyssagetæ: and by the obvious result of the statement of his geography of Scythia (page 53, *et seq.*) the mouth of the Tanais, must, in the idea of Herodotus, have been as high as the parallel of 50°, and the Thyssagetæ, in 53°, at least.

His chain of positions, therefore, may be regarded as extending in an east direction, from the Thyssagetæ to the Issedones; so that these latter, could not (in his idea) be lower than 53°. But the Massagetæ, who are said to occupy the same parallel with the Caspian, must have been several degrees to the south of the Issedones. For the Caspian is described in Clio, 203, to have Mount *Caucasus* on the *west*: and therefore the parallel passing through the centre of that sea, may be taken for the same as that of Colchis: that is, 42 to 43°. Again, according to the dimensions of the same sea, in 203, it ought not to extend northward, beyond 47°: and the Massagetæ, who are stated to be on the *east side*, must consequently have been *below* 47°. Such was the idea of our Author; to explain which, is the object in view: but the *truth* is, that the

Issedones lay almost directly *east* from the Massagetæ; and, at a still greater distance from them, than was supposed to intervene.

Thus we ascertain a geographical position in the *supposed* extension of Europe eastwards, by Herodotus, in that of the ISSEDONES; who may be regarded as the ancestors of the people now denominated OIGURS or YUGURES, by the *Tartars*; ELUTS, or ELUTHS, by the *Chinese*. (They have also a variety of other names; see Mr. Tooke's Russia, Vol. iv.) Much more will be said of them in the sequel. They are a tribe of KALMUCS; we believe the principal one amongst them: and possess the original and proper seat of the Kalmucs; subject however to the Emperor of China. And thus the error in distance made by Herodotus, may be appreciated; and may be reckoned at about 500 G. miles: the Issedones being so much farther to the east, than he supposed.

According to this arrangement, the *Arimaspians*, the most remote nation, eastward, known to Herodotus, may be supposed to be situated in the same meridian with the source of the Indus. We shall now inquire, how far any of the nations above recited, besides the Issedones, are known in history; and also how far they can be placed in a geographical arrangement.

The ARGIPPÆI of our Author, whose position is *short* of the Issedones; and the *Arimaspi*, who are situated next *beyond* them, shall first be considered.

The Argippæi, then, are said, Melpom. 23, and 25, to be situated at the foot of certain *lofty* mountains, which preclude all discovery; (*northward:* for the Issedones are known to lie *beyond* them, to the *east*;) and the country is said to be *flat*, and the soil *good*, to *this point*, in coming from the westward; but now becomes *barren* and *stony:* moreover, as we have seen, the Issedones begin on the *east* of the Argippæi.

We regard the Argippæi, then, as the people who inhabited the eastern part of the *Great Steppe;* bordering *northward* on the great chain of mountains, that divides the Steppe from SE to NW,

and which separates the northern from the southern waters, in that quarter. It is a marked feature in the geography; and is described by the Arabian geographers to be remarkably lofty, steep, and difficult of access; agreeing to the description in our Author.*

The Argippæi would also border, eastward, on the mountains that separate the Oigur country from the Steppe: or which perhaps, with more propriety, may be regarded as the western *declivity* of the elevated region inhabited by the Kalmuc Eluths. A part of these mountains are named *Arga*, and *Argia*, in Strahlenberg, and the Map of Russia.

According to these suppositions, the Argippæi must have occupied the northern part of the tract, now in the possession of the *Greater* or *Eastern* Horde of the KIRGEES; who are dependant on China, as the Middle and Western Hordes are on Russia.

It is certain that in the above adjustment of the situation of the Argippæi, one striking circumstance in the description of our Author, is wanting; namely, the continuation of *flat* country, from the Thyssagetæ, to the situation in question. But, it should be recollected, that no particular accuracy can, in this case, be expected: and that the very great extent of the level Steppe, may be allowed to justify him in the supposition, that the face of the country was the same, throughout.

The ARIMASPIANS, who are fabled to have had but *one eye* (Melpom. 13 and 27; and Thalia, 116), are said to take the gold violently from the GRYPHINS, who guarded it; and with which the country was said to abound. These Arimaspians, who are placed by our Author, *beyond*, that is, to the *eastward* of, the Issedones, seem to have inhabited Mount *Altai* (which is to be regarded rather as a *region*, than a mere *ridge* of mountains), from whence the rivers

* These mountains will be hereafter spoken of, as the southern (or SW.) boundary of the country of *Jajuje* and *Majuje* (*Gog* and *Magog*), according to the Arabian geographers. They appear to be also the continuation, eastward, of the *Riphæan* mountains of Ptolemy.

of Irtish and Oby, flow; and which mountains are at no great distance beyond the *Oigurs*, whom we have just taken for the *Issedones*. It is possible, that the names of the tribes, in, and about, Mount Altai, may have been such, as to approach nearly to *Arimaspia* and *Gryphin*; and the Greeks or Scythians may have given them the significations above related. Herodotus has given reason to suppose, Melp. 26, that the Issedones, as well as the Arimaspians, had plenty of gold amongst them: and the modern discoveries of the Russians, prove, that the ancient people of this part of Tartary, possessed much gold.

It has been shewn, page 109, that the ancient sepulchres towards the head of the Irtish, contained much gold; as also that the gold mines of Kolyvan, and the *Altaian* mountains, are situated in that quarter. The latter are so named from *Alta*, a word which signifies *gold* in the Mongul and Kalmuc languages:* and there can be no doubt, but that the name has been given, from the quantity of gold found in the neighbourhood. The mountains of *Altai* appear both in the Map of Strahlenberg, and in the modern Map of Russia. In the former they are named *Altai*; in the latter *Chaltai*, as well as *Altai*: and they either occupy a great extent of space, or different ranges of mountains are so named; a seeming proof, that the precious metal is diffused over a considerable extent of country, in this quarter: and from the courses of the waters around it, the region of Altai seems to contain some of the highest ground in the centre of Asia. Now, from all these circumstances, it appears probable, that the country of the Gryphins or Gryphons, which *abounded* with gold, was that of *Kolyvan*: and that the Arimaspians were the people of the region of Altai; and who had the Oigurs or Issedones for neighbours, on the south. And thus we have endeavoured to reconcile this part of our Author's chain of positions, eastward.

There remain then, to be considered, in the space between the

* Mr. Tooke in the Archæologia, Vol. vii. p. 227.

Thyssagetæ, who are supposed by us, to have been seated on the west side of the Wolga; and the Argippæi, who are supposed to have occupied the eastern part of the Great *Steppe*, or seat of the *Eastern Kirgees*; the tribes of *Iyrcæ*, and the *Seceding Royal Scythians*. The space in reality, seems too vast for two tribes only: and the circumstance of there being only two tribes to be placed in his geography, may have led Herodotus, and after him Pliny, to place the Issedones as they have done, much too far to the west. But we cannot well doubt the position of the Thyssagetæ, any more than that of the Issedones; and therefore may suspect that the information of Herodotus was imperfect; and that *other* tribes, not enumerated, were there, also. Certain it is, however, that the *Kirgees* tribes, *do* possess at present, the whole space between the *Jaik*,* and the former seats of the Issedones; that is, two parts in THREE, of the space between the Thyssagetæ and the Issedones. But whether matters were in this respect, the same *then*, as *now*, we know not.

If the *Seceding Royal Scythians*, who lay to the east of the *Iyrcæ*, and between them and the *Argippæi*, can be supposed (as Herodotus says), to possess the *whole extent* of the plain country, eastward, their possessions would answer as nearly as possible to those of the *middle*, and *lesser* (or *western*) horde of KIRGEES; that is to say, the Desht Kipzak, and the western and greater part, of the Steppe; but as no idea of the space, any more than of the power, possessed by these Scythians, is given, it would be useless to reason on the subject; especially as we have already spoken fully on the

* The proper name of this river is *Diaek*, although it be more commonly called *Jaik*, or *Jaek*. In the geography of Ptolemy, the *Daix* is the second river from the *Rha* (the Wolga) towards the *Jaxartes*; (Sirr or Sirt) the *Rhymnicus* being next to the Wolga. But doubtless the *Daix* and *Rhymnicus* should change places; for it cannot be supposed otherwise than that the Daix is intended for the Diaek. The Rhymnicus will then answer to the *Yemba*: and the mountains of that name to those of *Ural*.

supposed connection between *these* and the Scythians of the *Mæotis*, in page 76, *et seq*.

It is probable that our Author might have had no idea of the extent of space that he had left, in the actual geography, to the three tribes of *Iyrcæ*, the *Seceding Scythians*, and *Argippæi:* and hence, doubtless, arose his error in supposing the Issedones to lie opposite to the Massagetæ; for he might perhaps have allowed to those three tribes, much the same space as to the three tribes on the west of them, between the Oarus (taken for the Wolga) and the Danube; and might have calculated that the space would reach as far eastward as the meridian of the *Jaxartes:* and on this ground, declare that the Issedones were *opposite* to, or in the same *meridian* with, the Massagetæ. If we are right, the cause of his error seems to be satisfactorily explained.

Since Pliny differs so widely from our Author, in his statement of certain of these positions, whilst he agrees so well in others, we shall offer a word on this part of the subject.

After speaking of a number of tribes, who inhabited the tract beyond the Mæotis and Tanais, lib. vi. c. 7, he comes to the *Thyssagetæ* and *Turcæ*;* apparently the *Thyssagetæ* and *Iyrcæ* of our Author; which tribes he places next to the *deserts* and *hunting places:* and beyond them all, the *Arimphæi*, said to border on the *Riphæan* mountains. Now, the ancients appear to have applied the name *Riphæan*, to different mountains, and perhaps to forests, also. Ptolemy, Pliny, and Mela, placed a part of them at the head of the Tanais, where there seem to be no mountains, but vast forests, only. The two latter, place another part of the same chain, at the head of the *Jaik*, admitting the *Arimphæi* to be there. But in fact, they do not seem to have had any clear ideas concerning them. The *Hyperborean* mountains of Ptolemy, beyond the Wolga, agree better to *our* idea of the *Riphæan:* for as the Arimphæi of Pliny and of Mela are said to border on these mountains,

* Pomponius Mela also, has the *Turcæ* near the *Thyssagetæ*; lib. i. c. 21.

eastward; and on the *Turcæ westward;* and *these* again, westward on the *Thyssagetæ;* it should be, that the mountains at the head of the Jaik (now named *Ural*), are the *Riphæan;* since Orenburgh answers to the country of the Arimphæi. And this part of the chain must necessarily be very much elevated, and conspicuous; since, from its neighbourhood, the *Tobol* flows into the North sea; the *Jaik* and *Yemba* into the Caspian. We conceive that from this point, the mountains intended by Riphæan, passed to the *north*, between the waters of the *Oby*, *Kama*, *Dwina*, and *Peczora:* and to the ESE, through the *Steppe*, to a junction with the mountains of *Arga*, on the one hand; and those of *Altai* on the other. How much of their course the ancients might know, or to what ramifications of them, the name *Riphæan* might be applied, is a doubt. It may however be suspected, that the three different names *Riphæan*, *Arimphæan*, and *Rhymnican*, applied to mountains in this quarter, were all intended, either in whole, or in part, for the same, or branches of the same, mountains.*

Taking therefore the Riphæan mountains (as far as they were known), for those which, in the first instance, *separate* on the north-east, the waters of Asia, from those of Europe; and afterwards the northern, from the southern, waters of Asia; and which extend through the Great Steppe to Oigur; in effect, the mountains of the Argippæi, beforementioned: we shall find the TURCÆ, in the TORGAUTI, or TORGOTS, a Kalmuc tribe situated between the Wolga and Jaik, in the government of Saratow: and the ARIMPHÆI, adjoining to, and beyond them, in the province of Orenburgh, and government of Ufa.

Pliny is right in saying that the Turcæ bordered on the Desert (Steppe). Herodotus says that the country of the *Iyrcæ* is woody; Melpom. 22: and Mela says the same of that of the *Turcæ*. The

* Can *Riphæan* have any relation to *Riphath*, or *Riphah*, who is the son of *Gomer*, and brother of *Togarmah* "of the north;" (in Genesis, x. ver. 3.) since we find *Magog* in the same quarter?

knowledge of Pliny, as to detail, appears to end at the Riphæan mountains.

The Torgots are spoken of, largely, by Mr. Tooke, Vol. i.; as a tribe of Kalmucs, seated *between* the abovementioned rivers: and there, Strahlenberg also places the Torgauti.

We are aware that exceptions may be taken to this supposition: as the Kalmucs are said to have migrated westward, in modern times: so that it may be reckoned idle, to place the *Torgot* tribe of Kalmucs, at the Wolga, in the time of Herodotus. But it is possible that the *tract itself* may have given name to the tribes that have successively occupied it: and the reader may perhaps regard it as an example in point, that the *Begdelly* tribe actually inhabit that part of Mesopotamia which is called the Plain of *Bectileth*, in the book of Judith; ch. ii. ver. 21. The natural inference, to be drawn, is, that in both cases, the tribes have taken their names from the tracts themselves. And may not *Torgot* itself, be one reading of *Turk*, or *Tourk?*

In support of the above opinion we may also quote Mr. Tooke (Vol. ii. p. 72.), who says of the tribes of the Nogayan Tartars, that "several of them have frequently changed their station in the vast deserts they inhabit, and *as often changed their name; one while taking that of the river of the place they stop at, at another that of the leader who heads them*, and again at other times, according to other circumstances."

With respect to the positions occupied by the Issedones, Arimaspians, &c. no opinions can be more at variance, than those of Herodotus and Pliny. It has been already remarked that the latter confines his geography of this quarter, within *very narrow* limits: for that he supposed even the Issedones and Arimaspians, the most remote of the nations spoken of by Herodotus, to be situated near the *Mæotis* and *Tanais*; lib. iv. c. 12: in which Mela, lib. ii. c. 1, agrees. But if Herodotus is to be regarded as faulty in excess, an error however, that we do not admit, these authors have surely

gone into the opposite extreme; and we cannot help suspecting that Mela, in particular, was led into this error by his ignorance of the distinction that ought to have been made, between the Scythians of the *Euxine*, and those of the *Caspian*; referring what concerned the neighbourhood of the *latter*, to that of the *former*: and it is probable that Pliny may have made some mistakes of the same kind. If this opinion be founded, it will account for their *ideas* respecting the Issedones, &c.

Herodotus, as we have seen, extended them to the meridian of the Jaxartes, 25 degrees to the east of the Mæotis: and was still very far short of the truth: for their relative position is very clearly pointed out, by Ptolemy, and is easily referred to modern geography. And hence, whatsoever errors there may be, in the intermediate positions, given by our Author, (if such there are) we ought to receive that of the Issedones as just; and to lay out of the question the systems of Pliny and Mela.

One particular is, however, very remarkable. The *Argippæi* of Herodotus, situated next the Issedones, answer in point of *description* to the *Arimphæi* of Pliny and of Mela, situated at Mount *Riphæas*, near the head of the Jaik. The description is remarkably pointed, and cannot be mistaken, as will appear presently.

Having shewn (as we trust) that the extreme boundary of the knowledge of our Author, eastward, was the mountainous region of Altai, at the head of the river Irtish, we shall conclude this head of inquiry; and proceed to select some particulars respecting certain of the principal nations abovementioned; such as the *Argippæi*, *Issedones*, and *Arimaspians*.

1. The ARGIPPÆI, whom we have supposed to be the people near Mount *Arga*, and the mountains of the Steppe, are oddly spoken of by Herodotus. Melp. 23. "They are (says he) *bald* from their birth, having large chins and nostrils like the *ape* species. They have a language of their own, but their dress is Scythian; they live chiefly on the produce of a tree which is called

Ponticus; it is as large as a fig, and has a kernel not unlike a bean: when it is ripe, they press it through a cloth; it produces a thick black liquor which they call *asehy*; this they drink, mixing it with milk; the grosser parts which remain, they form into balls, and eat.—They live unmolested, being considered as sacred, and having amongst them no offensive weapon. Their neighbours apply to them in matters of private controversy, and whoever seeks an asylum amongst them, is secure from injury."

The Argippæi agree in description to the *Arimphæi* of Pliny, and of Mela, just spoken of.

" They are (says Pliny,) not much unlike the *Hyperboreans* in their manner of life, (these are said to have lived, immediately beyond them.) They live in forests, and feed on berries. Neither men or women leave any hair on their heads. They are courteous in their behaviour, and are held inviolable by their neighbours, who leave them undisturbed: and moreover, do the same by those who take refuge amongst them;" lib. vi. c. 13. They are described to live at the foot of the *Riphæan* mountains; as the Argippæi at others, which are not named. Mela speaks much the same of the Arimphæi, lib. i. c. 21.

2. Concerning the ISSEDONES, the Greeks seem to have known but few particulars. These we have already spoken of, as the *Oigurs* or *Eluths* of the present times, and the *Œchardæ* of the Romans. Some of their customs are represented as the most abominable, whilst others shew them to be a refined people.

" They venerate (says our Author) the principles of justice: and allow their females to enjoy equal authority with the men;" Melp. 26. By this, we should naturally understand that the women were in possession of those privileges, which nature seems to have intended; and which they so deservedly hold, in civilized societies; namely, those of superintending the domestic departments, and of participating the comforts of society, without restraint. This marked a degree of refinement so much above the

standard of Scythian nations, that it was given to Herodotus as a characteristic feature of their national manners. But as we learn that the *Oigurs* were a lettered nation, and that they alone furnished the conqueror JINGHIS KAN with secretaries, we are the less surprised at the refinements of their ancestors; as the physical geography of their country is such (being one of the most elevated tracts in the centre of Asia) as is likely to preserve national manners through a long course of ages.

After this, how can we give credit to the following description, which belong to the Issedones?

"As often as any one loses his father, his relations severally provide some cattle; these they kill, and having cut them in pieces, they dismember also the body of the deceased, and, mixing the whole together, feast upon it. The head alone is preserved; from this they carefully remove the hair, and cleansing it thoroughly, set it in gold: it is afterwards esteemed sacred, and produced in their solemn annual sacrifices." Melp. 26.

As to the feast, we apprehend there is some mistake: but it is certain that Herodotus relates much the same of their neighbours the *Massagetæ*, in Clio, 216; but with the addition of *parricide*; for they are said to eat those only, whom they *kill*.* "As soon as any one becomes infirm through age, his assembled relations put him to death, boiling along with the body, the flesh of sheep, and other animals, upon which they feast; esteeming universally this mode of death the happiest. Of those who die from any disease, they never eat; they bury them in the earth, and esteem their fate a matter to be lamented, because they have not lived to be sacrificed. They sow no grain," &c.

We feel the same difficulty in believing this story of the *Massagetæ*; or indeed, of any other people. But that people have killed, or at least *accelerated* the death of, their aged and infirm parents, or friends, we believe, because we have *seen* something

* Strabo relates much the same of the *Massagetæ*, in page 513.

very much like it in Bengal: but *eating* them, is a quite different matter!*

It appears that the *Issedones* do the same by the skulls of their *friends*, as the *Scythians* and others, with those of their *inveterate enemies*. The Author has seen, brought from *Bootan*, nearly in the same region with *Oigur*, (or the country of the *Issedones*) skulls that were taken out of temples or places of worship; but it is not known, whether the motive to their preservation, was friendship, or enmity. It might, very probably, be the former. They were formed into drinking bowls, in the manner described by our Author; Melp. 65, by "cutting them off *below the eyebrows*;" and they were neatly varnished all over. Herodotus says, the Scythians, if poor, covered them with leather; if rich, in addition to that, they decorated them with gold.

It would be satisfactory to know some more particulars respecting the ISSEDONES. Concerning their supposed descendants, the OIGURS, or ELUTHS, much more is known: and the subject cannot but be interesting to the reader.

The conquest of the Eluths, as they are called by the Chinese, forms a prominent feature in the military history of the Chinese, during the late emperor's reign; when they subjugated the whole tract, westward, to the ridge of *Imaus*, which separated the two eastern Scythias.†

The Eluths, previous to this conquest, possessed a kingdom of considerable extent; formed of the two great provinces of *Terfan* and *Hami*, (or *Kamil*), which are situated in the *very centre* of

* Our Author says that one tribe of the *East Indians*, also killed and eat their parents. Thalia, 99. Of this, more under the head of Asia.

† The narrative of the conquests of the Eluths, occurs in Vol. i. of the *Mémoires sur les Chinoises*: and is said to be translated from an inscription, in *Chinese verse*, written by the emperor KIEN-LONG, and engraven on an obelisk, or monument, in one of the public places, in Pekin. The conquest was made about the year 1757; and the monument erected four years afterwards.

Asia. They are said to have been masters of the country as far northward, as the springs of the Irtish, and the mountains of Altai, beforementioned: and on the south-west, they bordered on Kashgur.*

At the commencement of the power of Jinghis, early in the 13th century, the prince of this country was tributary to the king of Turkestan, who resided at Kashgur; and being oppressed, solicited the protection of Jinghis; which led to the conquest of Turkestan, by the latter.†

It seems to be understood in Asia, that the Oigurs furnished the Moguls, not only with their learning and science, but even with their alphabet; although some difference of opinion, has arisen, whether the Moguls might not have had one of their own, and might only adopt that of the Oigurs, as being the more useful.

It is the remark of *M. Souciet*,‡ that no Tartar nation besides the Oigurs, had the use of letters, in the time of Jinghis Kan: and he also says, that the characters used by the Eluths, were the same with those in use in Thibet; where they are denominated *Tangusian*. Jinghis is said to have been the first of the Moguls, who made use of the Oigurs, as secretaries; a custom which was followed by many of his successors.

Abulgazi Kan, in his history of the Turks and Tartars, bears testimony to the fact of Jinghis and his descendants, having employed the Eluths as secretaries. So does M. Petis de la Croix;‖ who says, "the Moguls were indebted to the *Yugures* for the art

* See the above *Mémoires*. According to the tables of latitude and longitude of the places in the kingdom of the Eluths, given in the same *Mémoires*, the kingdom should be about 5¼ degrees of latitude in breadth, and 16 of longitude in length, in the parallel of 40°. The *Eluth* of the Chinese is pronounced *Oirat*, by the western people.

† History of Jinghis Kan, by M. Petis de la Croix, lib. ii. c. 7.

‡ In his Observations Mathematical, Astronomical, &c. p. 146, quoted in Astley's Coll. iv. p. 416. The work itself we have not been able to meet with.

‖ Hist. Jinghis K. lib. ii. cap. 7.

of writing they now use, which was wanting, before their union with this people. Whether they found the manner of the Yugure's writing more convenient than *their own*, we know not; but they adopted it, and have used it ever since."

A note in the same book from Rubriquis, says, that the letter written by Mangou Kan, son of Jinghis, to St. Louis of France (A. D. 1254.), was in the Mogul language, but in the Yugurian character: and that the lines were written from top to bottom, like the Chinese. This, we apprehend, contradicts the former statement of the Thibetian characters being in use amongst these people. Rubruquis who visited the court of Mangou Kan, in 1254, ought to have known what the Yugure character and manner of writing was. He says that they write from top to bottom, and he also describes alphabetical characters.

Thus the fact of the Yugures being the *only* people in Tartary, who had written characters, does not appear to be clearly made out: and M. Petis de la Croix, who knew enough of Tartarian history, to be enabled to compile a history of Jinghis Kan, did not believe it.

3. The ARIMASPIANS should have been a considerable people, since they are represented as the aggressors in the war, by which the *Issedones* were driven westward on the *Scythians*; and if they were, as has been conjectured above, the inhabitants of the elevated region of Mount Altai, they would probably have been a very hardy people. But so much of fable enters into the very description of their persons, that little truth could be expected, had more particulars been given; Melp. 13. Aristeas had only *heard* of them, 17. We must suppose that the poem written by him, and called by the Greeks the *Arimaspian Verses*, related not only to this people, but to his travels generally.* (14, 16.)

* Mr. Beloe has the following note on *Aristeas*. Melpom. 13.

"This person is mentioned also by Pliny and Aulus Gellius: it is probable that

We shall now return again to the geography, and conclude our inquiry concerning the general ideas of Herodotus respecting the extent and boundaries of Europe, by a recapitulation of the principal points that have been determined; and by adding a few remarks on their bearing on each other.

It has been shewn, that Herodotus does not assign an *eastern*, any more than a *northern* boundary, to Europe; although, in the opinion of the succeeding Greek geographers, such an eastern boundary is implied, in that of Scythia; namely, the course of the river *Tanais*. But, it is clear, that he not only overleaps *this* boundary, but extends Europe to the utmost verge of his geographical knowledge, *north-eastward*; and still says that "it is uncertain whether it be bounded on the north and east by the ocean." The *Arimaspi*, the most remote nation known to him (for it is a doubt whether the *Gryphins* lay to the north or east of them) are certainly meant to be included in EUROPE; because he says, Thalia, 116, "It is certain, that in the *north of Europe*, there is a prodigious quantity of *gold*—and it is affirmed that the *Arimaspi* take *this* gold away by violence from the *Gryphins*, &c." * Certainly then, as the place in which the gold was found, and which was contiguous to, or beyond the *Arimaspi*, was situated in Europe, these people also must be situated, either *in* Europe, or on the immediate borders of it: and, at all events, the *Issedones* are here classed

he lived in the time of Cyrus and Crœsus. Longinus has preserved six of his verses: see chap. x.; of which he remarks, that they are rather florid, than sublime. Tzetzes has preserved six more. The account given of him by Herodotus, is far from satisfactory." We may add, that Herodotus attributes the verses to Aristeas, in Melpom. 14.

* Our Author, although he retails the improbable stories told him, often takes care to shew that he disbelieves them; as on the present occasion. Says he, "I can never persuade myself, that there are any men, who, having but one eye, enjoy in all other respects, the nature and qualities of other human beings. Thus much seems unquestionable, that these extreme parts of the world, contain within themselves things the most beautiful, as well as rare." Thalia, c. 116.

as belonging to Europe; and of course, all the nations between them and the *Tanais.* No other interpretation can well be given to the passages above quoted, than that Europe extended eastward, beyond the limits of our Author's knowledge; that its limits were in effect, *indefinite;* and that it remained to be determined, whether it was bounded by the sea, on the north, and east. That *he* believed this to be the case, to the *northward*, appears certain; because he says, in Melpom. 13, that " the *Hyperboreans* lie beyond the *Issedones*, &c. and possess the whole country, quite to the *sea.*" This is given on the report of Aristeas, who is said to have penetrated as far as to the Issedones; * Melpom. 16. In 32, the Hyperboreans are represented to be *neighbours* to the Issedones and Arimaspians. But Herodotus seems to have believed that there was no sea, on the *east*, either of Europe, or of the earth at large. For he scouts such opinions, altogether, in Melp. 8, where he says, " the ocean, they say, commencing at the *east*, flows all round the earth: this, however, they affirm, without proving it." And again, (36.) " they pretend without the smallest reason, or probability, that the ocean encompasses the earth." Now, as he has admitted that the ocean does really bound the habitable earth, on the *west*, the *south*, and the *north*, it is clear that it could be only on the *east*, that he disputed its existence.

It has appeared (page 133) that our Author placed the Issedones and Arimaspians very far to the north, perhaps in 53°, whilst the Massagetæ, and other nations at the Caspian sea, were many degrees farther to the south. These latter also were assigned to the division of ASIA, whilst the former, were in that of EUROPE.

But he nevertheless omits to say, where the southern boundary of Europe, or the opposite one of Asia, passes, in the quarter beyond the Euxine and Mæotis. Now, as the river Phasis, is by him reckoned the common boundary of the two *divisions*, one must

* See above, pages 75, and 146.

conceive that, in his idea, it passed thence to the eastward, by *Caucasus*, and the *north* of the Caspian: and that afterwards it remained *indefinite*: for although he places the Issedones and Massagetæ, OPPOSITE to each other, he does not appear to have estimated the distance between them. It is probable however, that he thought it to be very great.

The idea of a NORTHERN OCEAN occupied the minds of all the ancient geographers, but none of them seem to have had any just ideas concerning its position. Since it appears, that our Author must have supposed, that the northern tribes described by him, such as the Thyssagetæ, Issedones, Arimaspi, &c. extended as far north as 53° at least, and the Hyperboreans far beyond these, one cannot imagine his northern ocean to be lower than 60°: that is, several degrees *above* the country of *Amber*, on the Baltic. It is probable, by his saying that the Danube ran through the *centre* of Europe, that he had estimated the parallel of the Amber country (Prussia), by supposing it to be situated as far to the north of the Danube, as this last was from the southern shores of Europe, that lay opposite to Prussia: and then, reasoning from analogy, he might suppose the shore of the northern ocean to continue eastward, much in the same line of bearing, as it does on the whole, from the north coast of *Gaul*, to Prussia; that is, a few points to the northward of east. For, it must be recollected, that, all the tract to the north-west of the Baltic sea, is not supposed to have existed, in his imagination, otherwise than as *Islands*: perhaps like the *Cassiterides*, or *Britain*.* We need only to look

* Eratosthenes and Ptolemy believed that the countries beyond the Baltic sea (Sweden, Norway, &c.), were insulated from the main land of Europe: and that the Baltic was a strait. This Island is named *Baltia* by the former, *Scandia* by the latter. Some moderns have indeed believed, that such a state of things existed, in early times: and that the lakes *Ladoga* and *Onega* were a continuation of the strait, between the gulf of Finland and the White sea. We have no doubt but it might have been so, but doubtless it was long before the time of Eratosthenes; and the idea of the Baltic being a strait, is more likely to have arisen from appearances, and from their ignorance of the geography of the northern part of it. Ptolemy's knowledge

back, to our own ideas of the northern ocean, beyond AMERICA, when only certain points in the line of its coast, were marked, by the early discoverers. Such kind of analogies the mind ever has recourse to, when necessitated to create a sensible object to reason on. It appears then, that Herodotus placed the shore of the northern ocean, much the same as Eratosthenes; but more distant than Strabo (see Gosselin); only, that being free from one capital error of theirs, that of supposing the Caspian sea to be a gulf of the ocean in question, he felt no necessity for bringing the ocean nearer to it, in order to shorten the *supposed strait*; so as to bring it within the bounds of probability. Pliny seems to have thought it more to the south, than any one of his predecessors; and Ptolemy, by omitting to place it at all, has left the matter at large.

The HYPERBOREANS may be regarded as the *Incognitæ* of Herodotus: for he says, Melp. 32, that "of the Hyperboreans, neither the Scythians, nor any of the neighbouring people, the Issedones alone excepted, have any knowledge; and indeed *what they say*, merits but little attention." But he observes that the *Delians* knew more of the subject. It appears that the Hyperboreans had transmitted *sacred offerings to Delos*, progressively through the hands of the Scythians, and other intermediate nations, Melpom. 33; and the route of these offerings is traced, to the borders of the Adriatic, and thence to Delos, in the following order:

First through Scythia, and thence "regularly through every contiguous nation, till they arrived at the *Adriatic*. From thence, transported towards the *south*, they were first of all received by the *Dodoneans* of Greece"—thence to the gulf of *Melis*, through *Eubœa* to *Tenos* (passing *Andros*), and finally to *Delos*. From the context, it may be supposed, that, as no part of Scythia lay to the west of

appears not to have extended to the gulf of Finland. Strabo's ended at the mouth of the Elbe: and he disbelieved the fact of the existence of Baltia, altogether; as well as of *Thule*. Thus, geography lost ground in this quarter also, between the times of Eratosthenes and Strabo.

Transylvania; and the route from *Scythia* to *Dodona* lay considerably to the west of south; that the country of the *Hyperboreans* must at least be situated to the north-eastward of the *Borysthenes:* and to speak more critically, it is probable that no part of it extended, in the idea of Herodotus, further to the west than the source of the *Tanais;* since he says, Melp. 18 and 20, that beyond the Androphagi and the Melanchlæni, the country was *uninhabited:* and the latter of these people, adjoined, as we have seen, to the *west* of the Tanais.

It may be concluded then, that, in the idea of Herodotus, the country of the Hyperboreans began about the meridian of the Tanais, and extended indefinitely, eastward. In Melp. 32, the Issedones as well as the Scythians, are said to be *neighbours* to the Hyperboreans: and as in 13, these last are said to lie *beyond (i. e.* to the *north*, we conclude, of) the Issedones, it is clear that they extended eastward as far as the Issedones, at least. Whence it should follow, of course, that the RUSSIANS and SIBERIANS, and particularly such of the latter, as are situated on the upper parts of the rivers *Oby* and *Irtish*, represent the *Hyperboreans of Herodotus.* They occupied the country, quite to the sea, in the extreme part of the north; Melp. 13, and 36; and if we may credit Herodotus, were the only nation who were not continually engaged in war with their neighbours. This might possibly be, from their having no nation *beyond* them; and their own country might be too cold to tempt the people of the south, to invade them, in an age of the world, when there was not so much want of room. We may add, that according to our Author's extended dimensions of Europe, he certainly meant to include the HYPERBOREANS in it.

There is reason conclude, that the term *Hyperborean*, amongst the Greeks, had different applications, in different ages, according to the progress of geographical knowledge; as *Thule* had, at a later time. Both meant the remotest tracts that they had any knowledge of: and of which, the knowledge was too limited, to admit of any clear, or determinate application. Britain, according to Diodorus, was the Hyperborean country of more ancient times: and after that,

the remote parts of Europe and Asia, which the Greeks knew only by report.

Pliny, lib. iv. c. 12, is more particular in his description of the Hyperboreans, than any other author. He places them beyond the Riphæan mountains; and these, according to his descriptions, are to to be looked for, at the heads of the *Tanais* and *Jaik*. (See above, p. 138). But, he remarks that some have placed them in Asia, at the shore of the ocean; whilst he includes them in Europe. Here it is proper to observe, that, although the western part of the country in question, was in Europe, yet it extended very far into Asia, also. Pliny was probably ignorant of the true course of the Tanais, and believed it to come from the N, or NE, instead of the NW, as it really does. And this belief would have occasioned him to misplace both the Riphæan mountains, and the country in question.

He speaks of the country, as being woody; and of the climate, as very severe; in fact, much in the same terms with Herodotus. The people he describes to be peaceful, pious, happy, and long lived.

Ptolemy places the Hyperboreans beyond the borders of Europe.

Diodorus (lib. ii. c. 3.) speaks of them, from some ancient traditions, but which he regarded as fabulous. Some circumstances of this report, point evidently to our Island; others to the country described by Herodotus, beyond Scythia. In the first place, an island is described to lie opposite to *Gaul*, and to be of equal extent to *Sicily*. (They might only have known a part of it.) In this island stood a famous temple, of a *circular* form, with a stately grove belonging to it: and there were priests who played on *harps*. But it is also said that the Hyperboreans and Grecians communicated with each other, and that the former had a particular kindness for the *Delians*. Thus far Diodorus.

Strabo, p. 62, and in other places, appears to consider the term Hyperborean, as merely *relative*.

The *Gog* and *Magog*, or rather *Jajuje* and *Majuje*, of the Orientals, seem to occupy nearly the place of the Hyperboreans of *Ptolemy*

and the *Romans*. Of the eastern geographers, Edrisi is the most particular, in the description of this tract. Ibn Al Wardi is more general; and Abulfeda much too general, to be clearly understood.

Edrisi places the country of *Jagog* and *Magog* (as his Maronite translator writes it), *beyond* those of the *Turks* and *Kalmucs*; and extends it to the northern ocean; which, it appears, he supposed to be situated at no great distance, northward, beyond the bounds of his VIIth climate. This climate included Great Britain, Sweden, the northern parts of Russia, and the corresponding parts of the country of Jagog and Magog; which last, was supposed to be bounded on the *east*, by the continuation of the same ocean. This climate, moreover, like the rest, is divided into 10 parts; of which the 9th, reckoning progressively from the west, is occupied by the country in question; and the 10th is supposed to be a part of the ocean itself. From this position of the northern ocean, given by Edrisi, it must of course be inferred, that he supposed its nearest shore to lie in the same parallel with Sweden, and the northern part of Russia; so that he was under a very great error, as to the position of those countries, on the globe; which may be regarded as being in the parallel of 60°, whilst the VIIth climate of ALFRAGANIUS reaches no farther to the north, than $50°\frac{1}{2}$. (See his Elements of Astronomy, chap. viii. p. 34.)

It is certain that Edrisi, in common with the ancient, as well as the Arabian, geographers, supposed this ocean to be much more to the south, than it really is. And, it is also pretty certain, that the Arabian geographers supposed the Continent of Asia to terminate on the north-east, at a line drawn from the northern part of the Yellow sea, to the mouth of the Oby; whose principal branch, the Irtish, seems to be designed by the river *Almashar*, said to pass through the interior part of the tract, assigned by Edrisi to Jagog and Magog. Whence, it appears, that the great body of Siberia, and Eastern Tartary, were unknown to Edrisi and Abulfeda, as well

as to the Greek geographers: for the ideas of Eratosthenes and Strabo, are, in effect, the same with theirs.

Thus, the northern extremity of the country of Jagog and Magog, which Edrisi places in the VIIth climate, or below $50\frac{1}{2}$ degrees, should, by his own arrangement of the other regions, placed in the same climate, be in about 60 degrees. Much the same kind of error, though less in quantity, appears in the arrangement of the countries, in the IVth and Vth climates; the Kalmucs *(Kaimakiens)* being placed between the parallels of $33°\frac{2}{3}$ and $43°\frac{1}{2}$, although they are really between 40° and 47°; (see again Alfraganius.) Again, the country of Samarkand, with part of Kowarezm, and the course of the river Sirr *(Jaxartes)*, are placed in the IVth, although they occupy, rather, the parallels assigned to the Vth climate.

We therefore place the country in question, in reference to the absolute geography, and not to the climates assigned; since they prove to be so erroneously conceived. A reference to the sketch in No. IV. page 116, will save much discussion: for, the reader will there perceive, the relative positions of the several divisions of the climates, that contain the country of Jagog and Magog, together with those bordering on it; collected from Edrisi. There it will be seen, that it borders *southward*, and *south-westward*, on the *Eluth Kalmucs*, on *Turkestan*, the *Desht Kipzak*, and the country of the *Baskirians:* and consequently, that it contained the tract, situated to the north of the mountains, so often mentioned, which divide the Great Steppe, now possessed by the Kirgees tribes: so that the Steppe of *Issim*, and the course of the Irtish in particular, belonged to the people of Gog and Magog; but what other tracts beyond these, are not particularized. Thus, as has been said before, it may be regarded as the Hyperborean country, of Ptolemy.

Ibn Al Wardi (as well as Edrisi), says, that the people of Jagog and Magog occupied the remote northern part of Asia, beyond the Kalmucs, &c. (Herbelot.)

Abulfeda mentions the rampart only, and that, without any dis-

crimination of position, otherwise than that it lies to the *north*, and also to the *west*, of China. His words are these: "The ocean bends *northward*, and in its progress, shuts up the *eastern* quarter of China, till it *faces* the mound or rampart of JAJUJE and MAJUJE. Thence it bends *westward*," &c. (Prolegomena). It is obvious, that this may relate to the wall of China, as much as to the other; and it is possible that Abulfeda may have confounded both together.

The Caliph WATHEK, about A. D. 842, sent a person from Sermenrai, on the Tigris, to examine the rampart, and report on it. He travelled by way of Derbend, and thence *northward* (perhaps *north-eastward* also, after he passed the Wolga); and having travelled 36 days, came to some ruined towns, in the Steppe; and at the end of about two months' journey came to the rampart itself. It is said, that he was also two months in going from the rampart to Samarkand; by which route he returned to Sermenrai, after being absent 28 months.

It is certain that if any reliance can be placed on the number of journies given, this rampart ought to be at the north part of the Steppe, near the fortified line drawn by the Russians from the *Tobol* to the *Irtish*, to keep out the Kirgees from the lands of Tobolsk. But we do not expect any accuracy in the report of the numbers; especially as Edrisi himself places the rampart in the 9th division of the VIth climate, and on the borders of Turkestan: so that it should rather be about 40 journies to the north, somewhat east of Samarkand; in the parallel of 50°; and nearly south from Tobolsk. The great *chain* passes the Steppe, *there*: and as the travellers are said to have passed a great extent of desert, in the way to it; in which were the ruins of towns formerly occupied by Jajuje, &c.; and this being actually the state of the desert now occupied by the Kirgees, in the quarter, between the Aral and the mountains just mentioned; it must be allowed to corroborate the above statement.*

* Mr. Tooke says, Russia, Vol. ii. p. 14, that "the desert of *Kirguis*, abounds in the relics of opulent cities."

Some have supposed the rampart in question to mean a wall between the Euxine and Caspian; but if the statements of the Arabian authors, are not to be regarded as mere fables, it must be looked for, *very far* to the *north*, and even to the *east* also, of the Caspian sea: since the person sent by the caliph, set off from *Derbend*, in quest of it, and travelled northward 26 or 27 days; a part of which journey lay through the country of the *Baskirians* (*Besegert* of Edrisi), which by the position assigned, should be to the N, somewhat east, of the Caspian:* and by every modern account, the Baskirians are seated to the east of the Wolga. Moreover, he was at this time, advanced but half way to the rampart. Again, he *returned* by way of *Lokman*, a city pointed out by Edrisi, whose position appears to be in the Great Steppe, on the banks of a river that falls into the lake of *Turgai*, or *Aksokal*; and may be supposed to be situated 8 or 10 degrees to the northward of Samarkand.†

From the description of the rampart and its gates, one is led to suppose that they either belonged to some ancient city, or were part of the fortifications of the passes of the mountains, before spoken of. It is related, that the whole Steppe, although now devoid of habitations, and peopled only with the Nomadic tribes of the Kirgees, was, even during the Tartar government, in certain parts, thickly sown with towns and cities; of which the remains, now visible, furnish the most ample proof.‡

It may be remarked, that remains composed of large masses, such as the gates of the above rampart, continue longer in their collective state, in the East, than in Europe; because the materials are not convertible to ordinary purposes, as with us. The vast palace of

* Edrisi, climate VI. part 9. † Ib. clim. VI. part 8.

‡ Mr. Tooke, Vol. ii. page 11, *et seq.* says, that "the countries which formed the TARTARIAN EMPIRE, abound in monuments of former power. The remains of ditches and ramparts are frequently met with.—The ramparts of *Sibir*, the ancient capital of Tartary, are still seen about *Tobolsk* on the *Irtish*. The lofty walls of *Tontoura* appear yet in the *Baraba*—not to mention the sepulchres and ruins in the deserts of the *Kirguis*, which abounds in the relics of opulent cities"

Chosroes remains on the banks of the Tigris, because a great collective strength, is required to demolish it: and also the stately gates of the citadel of Gour; both for this reason, and because they are in part formed of large component parts. In Europe, means would readily be found to reduce them to smaller parts, if there was no demand for them, in their original state. The whole East abounds with ruins of ancient structures, which are so much unlike any, in use, at the present day, that the vulgar often refer their origin, as well as their uses, to superior beings. The miserable clay huts attached to the walls of the temples and palaces, at Athens, Palmyra, or Thebes, do certainly exhibit the strongest contrast, between the wants and dispositions of men in different ages, in the same spot: but as we regard public monuments, as faithful indexes of the state of industry, and taste; as well as of the ease and plenty that must necessarily have reigned, previous to their execution, we do not, with M. Volney's philosopher,* feel a secret pleasure in contemplating MAN in that state of debasement, which leads him to destroy, rather than to admire, an exquisite work of art. After this long digression, we return to the geography of our Author.†

Much is said concerning the severity of the winters, not only amongst the Hyperboreans (where it might naturally be looked for), but even amongst the Cimmerians on the Euxine, situated in the 45th degree, only. The winters, our Author says, " continue eight months, and are intolerably severe and cold, and the remaining four, *sufficiently* cold. The sea itself (meaning, it may be supposed, the

* Volney's Travels, Vol. i. chapter 19.

† The reader will find in the Mém. Acad. Inscrip. Vol. xxxi. a memoir on the position of the rampart of Gog and Magog. The result of M. D'Anville's investigation, is, in a general view, much the same with ours, since it places the rampart near the mountains of the Steppe: but, critically speaking, we have assumed a position 8 or 9 degrees of longitude more to the west, $2\frac{1}{2}$ of latitude more to the north, having obtained from the new Russian charts, some notices that were unknown to M. D'Anville. Moreover, we regard some of the positions given by Edrisi in a somewhat different view from M. D'Anville.

Mæotis), and the *Cimmerian Bosphorus*, are congealed; and the *Scythians* make hostile incursions on the ice, and penetrate with their waggons, as far as *India.*" Melpom. 28.

Here, by an error, no doubt of the copyists, our Author is made to advance a very extraordinary fact, if not an absurdity; since India is not only removed to a vast distance from the Mæotis, but the greatest part of the intervening space is *land.* In effect he meant *Sindica;* which is, by his own statement, somewhere near the Mæotis; for in Melpom. 86, he says, that the broadest part of the Euxine is between the river *Thermodon* and *Sindica:* which latter must therefore of course, be looked for, opposite to the river Thermodon.

Pliny says, lib. iv. c. 12, that in winter, the Cimmerian Bosphorus is frozen, and may be crossed by foot passengers. But he is vague in his application of *Sindica.* Strabo and Ptolemy are very pointed. The former, p. 492, 495, places *Sindica* beyond the river *Hypanis (Kuban)*, in respect of Taurica: and Ptolemy has *Sinda* in that position, together with the port of *Sindica*, answering precisely to the present *Sindjik*, in the Russian and other maps; at no great distance to the eastward of the mouth of the river Kuban.

Our Author moreover says, Melpom. 7, and 31, speaking of Scythia, that the snow falls so thick, as to obstruct the view; and it was also his opinion that the regions remotely situated to the north, were uninhabitable from the unremitting severity of the climate; 31.* Concerning the people of whom he says, in 25, that they sleep away six months of the year, it may mean, that by the severity of the climate, they are compelled to stay mostly within doors during that period; which actually happens to those who winter in very remote northern latitudes. Or, had he heard of the long absence of the sun, in winter, within the polar circle?

* Can the phrase *Cimmerian darkness*, arise from the darkness of the air occasioned by the thick and frequent falls of snow, and by the general state of the atmosphere in winter, in the region beyond the Euxine; as Scythia itself was originally *Cimmerian?*

It appears that the HYPERBOREANS above spoken of, had been in the habit of sending their offerings to DELOS, by the hands of two virgins. On one occasion of this kind, these died at Delos; and the men who accompanied them as a guard, never returned. The Hyperboreans to prevent a repetition of this evil, adopted the method of sending their offerings, in the manner above related, through the hands of the intermediate nations;* Melpom. 33. In honour of these virgins, the Delian youth of both sexes celebrated certain rites; particularly cutting off their hair, and offering it on the tomb.† (34).

There is something more than ordinarily melancholy, in the fate of those, who, visiting a distant country on some specific errand, and with a view to an immediate return, perish untimely in a strange land. How often this has happened in our own times! In particular, the fate of TUPIA, and LEE BOO, interests us, from their amiable dispositions, and the grief of their friends who awaited their return. How adventurous soever the spirit that leads men to brave dangers on distant shores, may be, yet, during intervals of leisure, the mind is strongly called back to the place it left; and for which, a passion is implanted by nature, in every mind that is rightly formed.

Whatsoever has a tendency to link mankind together, in peaceful society, is pleasing to liberal minds; and therefore we feel a degree of sorrow for such accidents. For whether the object of the visit be rational curiosity, or harmless superstition, or both, the effect produced on the mind, may be good; and the benefits that *whole communities* may derive from the inquiries of such travellers, are in some cases, incalculable. However trifling therefore, such matters may appear to some minds, we are by no means inclined to

* Pliny also mentions this circumstance, lib. iv. c. 12; and speaks as if the Hyperboreans suspected some unfair proceedings. He says that the offerings were of the first fruits of their grain: and Herodotus, that they were carefully folded in *straw*. Melp. 33.

† Lucian remarks that the same kind of offerings were made at the temple of the Syrian goddess, at Hierapolis.

blame, much less to ridicule, the opinions of those, at whose instance the above offerings were sent. The human mind, softened by present distress, or terrified at dangers, which it feels that it cannot avert, becomes conscious of its own imbecility; and looks for support to a SUPERIOR POWER, a belief of whose existence, is strongly impressed on every mind (which is either not *sottish*, or not *conceited*), by seeing around it, an order of things, which appears to be upheld by superior wisdom and power. Homage and supplication are accordingly offered, but the ignorance or weakness of human nature, often refers them to mistaken objects. But if it happens that certain communities in the world, are blessed with more enlarged, and rational ideas of the DEITY, they ought to pity, but not to deride, the conduct of those, who do no more than act naturally, according to the state of their knowledge.

If in minds prepared for it, superstition can give composure, when nothing else could effect it, it must be allowed to be a real good. And to take this away, without making an adequate return for it, would be like endeavouring to persuade a person that he was unhappy, when he felt himself otherwise. The physician, either of the mind or body, who can cheat us into ease, has rendered us a certain good. Whilst fears or doubts invade the minds of the ignorant, they will ever have recourse to the operations of superstition; and people of education have no right to blame them, until they have prepared a remedy for such doubts and fears. But the truth is, that the labouring part of the community (that is, the bulk of it), could not, if they wished it, get rid of their prejudices and superstitions, for want of leisure to reason on them; nor might they be *happier*, by the change. We appeal to the history of mankind.

With regard to travelling, on the score of rational curiosity and improvement, it ought at least to command the respect, and approbation of mankind. To what is the rapid advancement in those arts, which administer to the comforts of common life, in Europe, under

an increased, and increasing population, to be ascribed, but to the importation of useful inventions, and products, from other countries: adopting from amongst them, that which is useful and applicable, either as a new discovery, or, as a modification of a former practice? Thus the communities of the earth have insensibly improved, even from a period so remote, that the names of their early benefactors have been lost; or perhaps, in some instances, they have only lost their mortal distinctions, to become gods, or demi-gods. The world has seen a PYTHAGORAS, an ANACHARSIS, an HERODOTUS, a PETER ALEXIOWITZ, a BANKS, forego, either the exercise of unlimited power, the blandishments of elegant society, or at least, the comforts of ease and security; to brave the dangers of the deep, or those greater dangers, which often arise from an intercourse with man, in his savage state; in quest of knowledge, or of useful productions. Nor that kind of knowledge, alone, which merely administers to the pleasure of the traveller; but that, which is derived from inquiries, concerning what useful customs or institutions amongst men, and what products of the earth, or sea, might be imported into their own countries, or their colonies.

The *interchange* of useful vegetable productions, between the different countries of the earth, with a view to cultivation, is alone an object which commands the gratitude of the world; and happy the man whose fame rests on this solid foundation: a foundation that opinion cannot shake, since ALL feel, and participate in the benefits; whilst systems of politics, and the fame of their authors, vanish; and are, in comparison with the other, like unsubstantial clouds, that vary their form and colour, with every change of position, or circumstance.*

To return to the proper subject of the work.—In the above geo-

* "And he gave it for his opinion, that whoever would make TWO ears of corn, or TWO blades of grass, to grow upon a spot of ground, where only ONE grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together." (SWIFT's Gulliver's Travels.)

graphical discussion, we have attempted to give a sketch of the extent of Europe, and the distribution of its parts, according to the ideas of Herodotus. The Greek writers of succeeding times limited it generally to the Tanais and Mæotis, and thereby reduced its length to about $\frac{2}{3}$ of that, allowed by our Author. But whatsoever he might add to it in length, was more than overbalanced by the quantity of actual space unknown to him, and consequently omitted, in Scandinavia, the northern part of Russia, and the British islands.

It is certain that the ideas, either of Arrian, or of the Journalists of Alexander's expedition, from whom he collected his information, were not perfectly clear, concerning the extent of Europe eastward. For Arrian says (lib. iv. c. 1.) that *very soon* after the arrival of Alexander, at the Jaxartes, he received ambassadors from the EUROPEAN Scythians. Now, when it is considered that it is two months journey from the Tanais to Alexander's post on the Jaxartes, the sudden appearance of the ambassadors there, proves, either that they could not have come from so distant a quarter, or that they were already in the neighbourhood, on some other errand. It is therefore probable, that Alexander, following the ideas of Herodotus, and other Greeks, extended Europe very far to the east of the Mæotis, and to the *supposed strait* that led from the northern ocean to the Caspian; which latter, it appears, he believed to be a gulf of that ocean; as Eratosthenes, Strabo, and others did, after him. And thus he might class some of the Asiatic Scythians, as belonging to Europe. We are told, that Alexander sent back some confidential persons, with these Scythians (denominated *European:* and Arrian himself allows that there was a *great nation* of Scythians in Europe), who returned again to him afterwards, whilst in his winter quarters in Bactria, and previous to his *second* visit to Sogdia. Arrian, lib. iv. c. 15.

If we are to credit the report of Arrian, respecting the opinion of Alexander, on this matter, he was in doubt whether the Euxine and Caspian seas, did not communicate with each other; for, he is said

to have projected the equipment of a fleet, for the purpose of deciding the question; lib. vii. c. 1, and 16. He remarks also, that at this time, the limits of the Caspian sea, were unknown. Be it as it will, Alexander told the king of *Chorasmia*, who affirmed that his territories bordered on the Euxine, that, after he had made himself master of Asia, and was returned to Greece, he would pass through the Hellespont and Propontis, into the Euxine sea. Lib. iv. c. 15. And in lib. vii. c. 1, it is said that this expedition was intended against the Scythians of the Mæotis.

Should the reader be inclined to censure either our decisions, or our prolixity, it may be stated in apology, that it is a very difficult task to follow the geography of persons who describe the relative positions of countries, without putting the description *to the test*, by reducing it to geometrical construction. The same may be said equally of Strabo and Eratosthenes, as of Herodotus.

[END OF THE GEOGRAPHY OF EUROPE.]

SECTION VIII.

OF ASIA, ACCORDING TO HERODOTUS.

Extent and Boundaries of Asia, *according to Herodotus.*—Arabia, *the last* inhabited *Country towards the* South, India *to the* East—*the Space beyond India, supposed to be a Desert.*—Asia *of less Extent than* Europe, *in our Author's Idea.*—China, *not known to the* ancient Persians: *and* India, *a recent Discovery.*—*The Visit of Alexander to India, had the Effect of contracting the Limits of the Earth, in the ancient Systems of Geography; as well as of falsifying certain Particulars of it.*—India *supposed by him, to be shut up by the* Eastern Ocean.—*Longitudinal Extent of* Asia, *and of the* Earth, *according to the Ideas of Eratosthenes, Strabo, and Pliny.*—*Scope of the geographical Knowledge of Herodotus, in Asia*—*deficient, in respect of his Description of the* physical *Geography.*—*Idea of the Chain of* Taurus, *amongst the Greeks*—*their System failed to express the* Levels *of the different Regions.*—Caspian Strait, *and Mount* Argæus—*the Mediterranean and Euxine Seas,* both seen *from the Summit of the latter.*—*General Idea of the Levels, and of the Courses of the Waters; through* Western *Asia.*—Hollow *Tract which contains* Assyria, Babylonia, Arabia, *&c.*—*Of* Imaus, *and* Emodus, *the elevated Region of* Eastern *Asia; and the Courses of its Waters.*—*The* whole *of* Eastern *Asia on a higher Level than the* Western.

On the subject of Asia, Herodotus has said a great deal; for this division of the globe, next to Greece and Egypt, formed the chief theatre of his history. His knowledge of Asia extended from the shores of the Arabian gulf, and of the Mediterranean and Euxine seas, its acknowledged boundaries on the west and south-west; to the country of the Oigurs (or Eluths), the sandy desert of Kobi,

and India, inclusive, on the east. Southward, it extended to the *Erythræan* sea, the proper boundary of Asia, on the side of Arabia and Persia: but there is reason to believe, that he, in idea, allowed to the Peninsula of India, far less extent than the truth. Northwards, he seems to have known (as has already been proved) the whole extent of the Great Steppe, or territory of the Kirgees; the Desht Kipzak; and other tracts, as far as the mountains of Altai, and the heads of the Irtish.

This space, however, is hardly equal to *one third* of Asia; but it is all that is *described* by him. He had *heard* of the *Hyperboreans*, as well as of the *vast deserts* that extended to the east, beyond India; and also of the *Issedones*; however, we cannot fix any limits to his ideas of the extent of space, in these two directions; although we may pretty confidently believe that they went but little beyond India, on the one hand; or beyond the tribes specified in his description of Europe, on the other. Here it is necessary to remind the reader, that, in order to adjust the extent of Asia, to the ideas of Herodotus, one must deduct, as belonging to Europe, all the tract lying to the north of Caucasus, the Caspian sea, and the Massagetæ. And, in effect, *bis* Asia, with the exception of Arabia, the Massagetæ, and a part of India, was little more than that part of it, which was subject to Darius Hystaspes. The Asia of Herodotus, was in his own idea even *less* than Europe; Melpomene, 36.

The Hellespont, Propontis, and Bosphorus of Thrace, are particularized, as portions of its western boundary; Melpom. 85, 86, 87. That the Isthmus of Suez, or border of Egypt, was intended for a part of the boundary, likewise, is certain; but it is not so clear whether in his idea, Egypt was reckoned a *part* of Africa; and consequently whether *Asia joined* to *Africa*. When he says, Melpom. 42, that "Africa is surrounded by the sea, except in that particular part, which is contiguous to Asia," we ought to understand that they certainly *joined*. Nor is this opinion weakened by what he previously says, in 41, after speaking of the breadth of the Isthmus of Suez:

" *Here*, the country *expands*, and takes the name of *Lybia*." But it appears from Euterpe, 16, 17, that an opinion prevailed in Greece and Iönia, that Egypt was distinct from the two continents: and our Author himself says, " I myself am of opinion that the *land* of *Egypt* alone, constitutes the natural and proper limits of *Asia* and *Africa*." This will be farther considered, under the head of Africa: but, at all events, there is no question that either the Isthmus of Suez, itself, or the eastern boundary of Egypt, constituted the western boundary of Asia; and not the course of the Nile.

ARABIA is said to be " the last inhabited country towards the south;" Thalia, 107: but this is explained, in 115, where it is said that Arabia and Ethiopia " are the two extremes of Asia and Africa:" and in 114, where " Ethiopia, which is the extremity of the habitable world, is contiguous to Arabia, on the south-west:" thus marking his idea of the relative positions of the two countries to each other, and to the earth in general. The *extent* of Arabia southward, is marked by the length of the Red sea, which is said to be 40 days of navigation; Euterpe, 11: and it being about 1230 G. miles in direct distance, this is no mean approximation to the truth; respect being had to the rate of sailing of ancient ships; of which, more in its place. But it will be found, that he makes it too narrow, and its line of direction, according to the result from the general *data*, too near the meridian.

Concerning the Erythræan sea, the southern boundary of Asia, he seems to have known few particulars: for he evidently did not know that the sea which bordered on *Persia proper*, was a *gulf*, like that which separates *Arabia* from *Egypt* and *Ethiopia*. All appears to be described as one continuous open sea, from the Indus to the Euphrates.

Towards the north, no idea of any positive boundary of Asia is given, beyond the *Colchian Phasis*:* but the boundary is implied to pass between the territories of the Massagetæ and the Issedones;

* Herodotus and Procopius are the only persons who assign this boundary to Asia. See page 35.

the latter of which people were, erroneously, supposed to lie to the *north* of the former. This has been already exploded in the dissertation on the boundaries of Europe; (page 133). This part of Herodotus's geography is therefore remarkably deficient; perhaps from the difficulty which he found in arranging the relative positions, after having assumed such false principles.

India was reckoned "the *last inhabited* country towards the east;" Thalia, 107. And, in 98, "the Indians are the people of Asia who are *nearest* the *east*, and the place of the *rising sun*." But his ideas of India, whether respecting its geography, or the state of society, were very limited indeed, and no less erroneous. Nor is it extraordinary that it should be so; since he informs us that, as to particulars, India was a recent discovery, even to the Persians, in the time of Darius Hystaspes, who caused the Indus to be navigated throughout, and the coasts of the ocean, and of the Arabian gulf, to be explored; after which he subdued the Indians, and made himself master of the sea that borders on their coast. Melpom. 44.

Beyond India, Herodotus confesses that he knew nothing. "As far as *India* (says he, Melp. 40), *Asia* is well inhabited; but from India, *eastward*, the whole country is *one vast desert*, *unknown*, and *unexplored*." That the tract was unknown, and unexplored, by those who held converse with the Persians and Greeks, appears likely: but that it was one vast desert, is now known to be an error; since the vast empire of China, and its dependencies, together with the Peninsula beyond the Ganges, &c. &c. lie to the east of India. It is certain, however, that a vast barrier of mountainous country, shuts up on the East, the quarter of India, possessed by Darius (his 20th Satrapy); the part to which the Persians may be supposed to have pointed their inquiries; and which appears to be the part here intended. And moreover, that to this mountainous tract, there succeeds the extensive *sandy desert* of *Kobi* (or *Shamo*), and other Tartarian deserts, of almost immeasurable extent.

It may therefore perhaps be inferred, that the desert of Kobi, was

the *remotest* part of the *East*, that Herodotus had heard of; and that when he spoke of the deserts *beyond* India, it was of *this desert*: and although to us, to whom the form, the quality, and relative positions of the different tracts are known, it may appear a great error, to place a desert adjoining to India, eastward; yet we must regard Herodotus, as a person who was ignorant of the true state of the matter, as to particulars; and that, hearing of a desert, *beyond India*, he thought himself justified in shutting up that country entirely, on that side, with a desert.

Those to whom the geography of North America and New Holland, has been gradually unfolded, during the latter half of the present century, may recollect how crude their ideas were, respecting the form and extent of the unexplored parts of those continents; and that every discovery, was a refutation of some former error. With a recollection of these ideas in the mind (if they can be retraced), we ought to follow Herodotus, in his descriptions of the remote parts of the earth.

According to the above ideas, therefore, *Asia*, as known to Herodotus, was more contracted in point of length, than Europe; or rather what is designed by him under that name; for from *Cape St. Vincent* to the supposed seat of the *Issedones* (that is, *opposite* to the *Massagetæ*), is much more than equal to the length of Asia, from the *Ægean* sea to the *Tartarian deserts*.

And hence it must also be inferred, that the Persians of those days, had no commercial intercourse either with *China* or *Cathai*, as in latter times; otherwise, either Herodotus, Alexander, or the Seleucidæ, would at least have *heard* of China, and Eratosthenes would have noticed it. But it has appeared that India itself was *new ground* to the Persians (we mean those, who formed the original empire of Cyrus), and much more the countries beyond it: and indeed, judging by later events, it must have been the particular policy of the Indians to keep their people at *home*; which has at least some effect towards *shutting* out strangers: and whatsoever

applies in this way to *India*, applies perhaps in a yet greater degree to *China*.

It may appear very extraordinary, but was nevertheless true, that the visit of Alexander to *India*, was the means of contracting, in some degree, the limits that had been assigned by the geographers of preceding times, to ASIA; and, of course, to the earth itself: for the system of Alexander admitted of *no tract* of land whatsoever, *beyond* India; making India the most eastern country of Asia, although Herodotus had extended a vast desert beyond it. How is this change to be accounted for? It could not well be, that the Indians had not *heard* of any country beyond *them*, and that they believed *theirs* to be shut up by the sea, on the east; or that Alexander should have neglected to make the proper inquiries: but it might have been owing to bad interpreters; or Alexander may have misconceived the scope of their information. It is possible, too, that *vanity* may have had some share in it, by its causing a wish that there should be no other country beyond the one he had explored: in other words, that he had gone to the end of the earth. It is certain that something of this kind appears, also, in the conduct of Polybius, with respect to Africa, as will appear in its place: and we suspect that this conduct is on the whole, natural.*

There is however, a very striking fact that we shall mention, and which might have had a considerable share in determining the opinion of Alexander: and who but is ready to believe the thing he wishes? He would have learnt from the Indians, of course, that the Ganges had an easterly course towards the sea; and this, doubtless,

* Strabo, who wrote in the 5th century after Herodotus, believed that there was no country beyond India: so that China, although at that time perhaps, one of the most populous and interesting countries in the world, had escaped the knowledge both of the Greeks and Romans, to that time. It is uncertain when the tables called *Theodosian* were formed, but it is generally supposed about the second century. The state of knowledge appears to have been much the same, at that time. Nor was China *distinctly* known in Europe, till the 13th century.

fixed in his mind the idea of an EASTERN OCEAN, which in its nature, must have shut up the Continent on that side; and also joined to the NORTHERN ocean, which Herodotus and others believed to terminate the habitable earth, at the *embouchure* of the Ganges. This deduction was certainly very plausible; and might well have deceived those, who were unable, from want of language, either to make themselves understood, or to understand others, critically: for few would have conceived that the mouth of the Ganges, which river itself had a general *easterly* course, was situated in a gulf of the *southern* ocean. The opinions of Eratosthenes, Strabo, Pliny, and Arrian, were all to the former effect: so that, no doubt, it was the commonly received opinion, from the date of Alexander's expedition.*

Herodotus gives no intimation concerning the measure of the extent of Asia, beyond Susa, eastward: nor was it, probably known to him. Eratosthenes, Strabo, and Pliny, each have given it: nor are their reports so far different from the truth, as might have been expected; all circumstances taken into the account. For, in the first place, the distance must be supposed to be calculated on the measure of the road: the mode by which it was, in all probability, obtained. It must also have been reckoned on many different lines of bearing, the inflexions of which, could not well be ascertained: and lastly, the distance between the Indus and the mouth of the Ganges, was, in a great measure, taken on report.

As then the actual distance, in a direct line from Cape St. Vincent to Issus, and thence to the mouth of the Ganges, is about 4970 G. miles;† we shall, by adding $\frac{1}{8}$ for inflexions (621 miles), be

* Pliny, lib. ii. c. 108, after setting forth, that the Ganges discharged itself into the *Eastern ocean;* marks this position as the eastern extremity of the world, by opposing it to the gulf of *Issus*, and the Promontory of *Sacrum* (Cape St. Vincent) on the west; and then goes into a curious calculation of the measure of the habitable earth.

† That is, 2150 between the Promontory of *Sacrum* (Cape St. Vincent) and *Issus;* 2820 between *Issus* and the mouth of the Ganges, or supposed eastern extremity of Asia.

enabled to assume 5591 for the road distance. Now, Eratosthenes allows 70,000 stades; Strabo, 67,500; and Pliny, about 70,100; and as Pliny, no doubt, copied the Greek numbers, the *ratio* may be taken at 700 to a degree, throughout.* Hence the distances will be severally, 6000, 5786, and 6008 G. miles; and the greatest difference between the calculations and the actual distance, 417 miles: the least, that is, the calculation of Strabo, 195 only. And, it is probable, that a greater proportion of inflexion ought to be allowed; which might bring the two accounts very near together.†

* The reports of the distances by Eratosthenes and Strabo, lib. i. and ii. are collected by M. Gosselin, pages 12 and 13.

The numbers in Pliny (lib. ii. c. 108.) are from *Artemidorus*, who calculates the distance from *Cadiz* through *Cyprus*, *Rhodes*, *Sicily*, and *Sardinia*, to *Issus*, and thence to the mouth of the Ganges, at 8578 MP.; and on a second line, through *Cappadocia*, *Ephesus*, *Rome*, and *Spain*, &c. at 8685.

The 8578 multiplied by 8, give 68,624 stades: and adding 1458 for the distance between Cadiz and Cape St. Vincent, the total is 70,082.

† The 67,500 stades of Strabo, agree to the ratio of $724\frac{1}{5}$ to a degree, reckoned on the *road distance* of 5591 G. miles.

This furnishes another example of the fact, advanced in page 23, *et seq.* that the ancients gave the distances across Asia, in *road* measure; and not in direct distance.

The record of distance in Pliny (lib. ii. 108.), between the supposed extremities of the earth, Cape St. Vincent, and the point at the mouth of the Ganges, is well worth remarking, even from the accordance of the two intervals of space, between Cadiz and Issus, Issus and the Ganges, in the calculation; with those on the actual geography. He reckons 5215 MP. between Myriandrus, at the gulf of Issus, and the Ganges; and the whole distance from the Ganges to Cadiz, being 8578, leaves 3363 between Issus and Cadiz. Hence the proportions will be as follows: the distance between Cadiz and Issus, will be to that between the latter, and the mouth of the Ganges, as 27 to 42; and on the actual geography it is as 27 to 38: a near approximation for those times. It must be recollected, that the Promontory of Cape St. Vincent is about 125 G. miles to the westward of Cadiz.

Pliny, in the same book, c. 109, gives, although in a whimsical way, the idea of *Dionysidorus*, a mathematician of *Melis*, on the semidiameter of the earth. He supposed it to be 42,000 stadia; giving a circumference of 263,894: consequently a degree should have consisted of 733 stades; whilst our mean result is 718: that of Strabo, given above, $724\frac{1}{5}$.

To return to Alexander—it appears that his expedition had the effect of falsifying the geography of Asia, in *more* than *one* capital point, although it *added* so much to it, in others. It would have afforded some triumph to Herodotus, could he have known, that persons of so much acuteness, and whose errand was almost as much discovery, as conquest, should, after visiting India, have left the geography of the East, as to *outline*, nearly as they found it; and should besides, have falsified it in point of *detail;* that is in respect of the Caspian sea, which Herodotus rightly described as a lake; but the followers of Alexander, as a gulf of the Northern ocean!

In assigning the limits of the knowledge of Herodotus, in Asia, we must therefore, leave out, on the chart of modern geography, all *China*, the *Chinese* and *Western Tartary*, *Thibet*, and the *Peninsula beyond* the *Ganges;* together with the *greater* part of *Siberia*, and its appendages: that is to say, by far the largest part of that vast continent. Such are the outlines of the Asia of our Author, as described in his work, as it now stands: and before we proceed to quote his *brief* description of the several regions of it (known to him), it will be proper to give a sketch of the natural division of the country, as to its *levels*, and the courses of its principal waters, between the Hellespont and India, the extreme limit of our Author's knowledge: for, it may be remarked, that (through whatsoever cause it may have been), he is singularly deficient, in respect of his description of the physical geography of Western Asia; in that he has totally omitted the chains of mountains from which it derives its chief character.

It may have been, that too little was known of the physical geography, to enable Herodotus, to furnish out a description of it; and it must be acknowledged, that, if a judgment may be formed from what passed between Aristagoras and the King of Sparta, respecting the countries between Sardis and Susa, there is much ground for the above supposition: but then, Herodotus himself had travelled across a considerable part of Western Asia; and therefore the surface of it ought in some degree to have been known *to him*.

It is pretty generally known, that the Greeks, after that the expeditions of Alexander and Xenophon, had furnished so great a number of routes across Asia; conceived an idea that the chain of TAURUS, which originated at the shore of the Ægean sea, in Asia Minor, extended in a narrow, straight, belt, keeping nearly in the same parallel, throughout the whole continent of Asia; and that it terminated on the shore of a *supposed* Eastern ocean, which washed the extreme border of India.*

TAURUS, amongst the *latter* Greeks, and the Romans, was famous both as a *natural*, and as a *political* boundary. It was a line of separation, as it were, between two worlds; and was to the Roman empire, in latter times, what the ALPS were at an earlier period. Properly speaking, it was the collective term for that great ridge, which was supposed to divide Asia into *two climates*; and which, although broken, at times, into two, or more distinct chains, and occasionally varying in its general direction, yet, either through the want of a clear knowledge of particulars, or for the sake of expressing a collective idea, the *whole* was called Taurus; at the same time that different portions of it, had distinct names. Its separation, and divergence, however, often rendered the application of these names, difficult: and, upon the whole, it can only be supposed that the ancients originally formed their ideas of the nature and direction of Taurus at large, from that part of it which lies within *Asia Minor*; where it indeed preserves a greater degree of unity than elsewhere. This was the part most familiarly known to them: and they might (as is not unusual) extend the idea to the parts which they had *not* seen.

The Taurus of the ancients, then, under the particular names of *Taurus*, *Niphates*, *Caspius*, *Paropamisus*, *Caucasus*, *Emodus*, &c. originated in the SW extremity of Asia Minor, through which tract

* See Strabo, lib. xi. xii. and xvi.: but more particularly the latter end of the xith and beginning of the xiith.

it passed at no great distance from the shores of the *Levant:* and thence, in its course eastward, separated *Armenia* from *Mesopotamia*; the *two Medias* from each other: and the *Greater Media* from the narrow tract, along the southern border of the Caspian sea.

Opposite to the south end of the Caspian, it was partly divided by a vast *chasm*, denominated the *Caspian Strait;* through which lay the best passage from Media, Mesopotamia, and the *western* kingdoms in general, to Parthia, Hyrcania, Aria, and the remainder of those in the East;* as by it, the great deserts to the south, were avoided.

Passing the south-east corner of the Caspian sea, Taurus was *understood* to separate in its eastern course, the countries of Parthia, Margiana, and Bactria, from those of Aria,† Drangiana, and the western provinces of India, watered by the *heads* of the Indus. Here their knowledge of the detail, ended; and beyond this point, it was supposed to divide *Scythia* from *India;* taking both these coun-

* The Caspian strait, was with the ancients a geographical point of importance, and was supposed to be in the same parallel with Issus and Rhodes.

This remarkable chasm is now called the Strait or Passage of *Khowar (Choara* of the ancients), from a town or district in the neighbourhood. It is situated at the termination of the great Salt Desert, almost due north from Ispahan, and about 50 miles to the eastward of the ruins of Rey (or *Rages.)* Alexander passed through it in his way from Rages towards Aria and Bactria.

Della Valle and Herbert amongst the moderns, Pliny amongst the ancients, have described it particularly. It is eight miles through, and generally forty yards in breadth. Pliny says, lib. vi. c. 14, that it is only wide enough for a carriage; and Della Valle, Vol. iii. that in places where it is narrowest, and winds withal, a *litter* can scarce pass. The mountains are very high on each side. The bottom is generally flat; and at certain seasons, a considerable stream of salt water flows towards the desert on the south. It must be remarked, that the chasm does not intersect the great body of the Caspian mountains, but only the inferior ridges.

† Eratosthenes and Strabo supposed that *Aria* lay to the *south*, of the continuation of *Taurus*. This appears to be a mistake, as far as our information goes. Ptolemy had the same idea: but then he includes in *Aria*, the lake of *Zurrah*, which is really in *Drangiana;* a country separated from *Aria*, by the mountains in question.

tries at large, and as occupying the remainder of the space, in the habitable world, eastward.

We have here endeavoured to express the general ideas of Eratosthenes, Strabo, and Ptolemy; and they were so far right, as that certain high ridges of mountains (though differing exceedingly in the scale of height), are found in these positions; but neither do the highest chains of summits follow the direction supposed, nor is the termination of the high region in the same parallel with its commencement, but much more to the north. As a proof of the first assertion, the Euphrates (the principal drain of Armenia), springs from the neighbourhood of the Euxine sea, and after a considerable length of course southward, *penetrates Taurus*,* which must therefore of course be *lower* than the region towards the Euxine. And, in fact, it seems to be proved, by the course of the river *Melas*, that the superiority of level at the source of the Euphrates, near Trebizonde, is continued obliquely across the Isthmus of Natolia from Caucasus to Taurus, passing above the heads of the Phasis, Cyrus, Araxes, Euphrates, &c. by *Cæsaria (Mazaca)*; and of which, mount *Argæus* was a part.† And hence it may be concluded, that in the application of the name, to the continuation of Taurus, the ancients were influenced more by the *apparent*, than the *actual* elevation: for there is no question that the highest level lies to the north, yet Taurus rises from the plains of Mesopotamia, with more *apparent* altitude, than the mountains of Armenia, from the plain of Erzeroum.

Such was the system of the ancients, respecting Taurus: but it conveys no idea of the *general levels* of the countries, since the ridges alone, had they been ever so correctly described, are no more than the *higher* parts of elevated *regions*; which *regions*

* This is particularly described by Pliny; lib. v. c. 24. He says that the base of Taurus is 12 miles in breadth.

† The ancients had an idea that from the summit of mount *Argæus* both of the seas could be seen. Strabo, page 538.

themselves, and not merely their *summits*, are the marked features of the continent.

To begin with the *Peninsula of Asia*, or Asia Minor, inclosed between the Mediterranean, Ægean, and Euxine seas, on three sides, and on the fourth, by an imaginary line, drawn across the Isthmus from *Amisus* to *Issus*—this is an elevated tract, of which the southern part, towards the Mediterranean, is by far the highest, being the *proper* Taurus itself, which rises abruptly from the neighbourhood of the sea coast, turning the courses of the principal waters, towards the Euxine and Ægean seas, and leaving a succession of narrow tracts between it and the sea: that is, Cilicia, Pamphylia, &c.

The next portion of space, is yet more elevated; and is properly an extension of the former, to the Caspian sea, and to the space between it, and the Euxine, generally; it being bounded on the south, by an imaginary line, drawn from the north-east corner of the Mediterranean, to the south part of the Caspian.

On the north, it terminates in the region of Caucasus, which overlooks the *Sarmatian* plains; in other words, the desert of Astrakan, and the country of the Don Cossacks. And hence it happens, that the northern parts, both of the Euxine and Caspian, are situated in a low tract of country.* Southward, the region in question overlooks the vast *hollow* space, in which are contained, the countries of *Syria*, *Mesopotamia*, *Assyria*, and *Babylonia* (in

* It may be remarked, that this low tract, is, in effect, a part of a *zone* of low land, that extends generally through Europe and *Western* Asia. That, in like manner, a zone of elevated ground, corresponding with that, now under discussion, runs parallel to the above; and that moreover, it is bordered on the south, by another zone of a lower level, if we admit the Mediterranean and Persian seas to form a part of it.

These different levels must necessarily have a considerable effect on the winds, and weather. Can it be supposed, that the hollow zone, to the north of *Caucasus*, the *Bastarnian* Alps, the *Carpathian*, and *Hercynian* mountains, has any share in conducting the east wind of the Steppe, to the west of Europe?

effect the ASSYRIA of our Author, and of Strabo); and finally, the *Great Arabian Desert.*

The political divisions of this region, are, the eastern part of Cappadocia, Armenia, Pontus, Colchis, Iberia, Albania, the country of the Carduchians, and *Media Atropatia.** It appears to be the *highest level* of *Western Asia;* giving rise to the Euphrates, Tigris, Cyrus, Araxes, Hypanis (or Kuban), Phasis, &c. which flow in different directions, and discharge themselves into the Euxine, Palus Mæotis, Caspian, and Persian gulf: and the Euphrates itself, flows towards the Mediterranean till it is turned aside by Amanus, within 100 B. miles of the gulf of Issus.† On the higher parts of this region, are the two great *salt* lakes of *Arsissa* and *Spauta* (Van and Maraga.)

Pursuing the course of the high level, from the quarter in which we left it, that is, *Media Atropatia*, it is found to extend eastward, till it joins with mount *Imaus*, which is situated beyond the fountains of the Oxus and Jaxartes; and which forms the western border of a *yet higher* and *more extensive* region, than either of the former.

This THIRD portion of the elevated region of Asia, is very unequal in point of breadth. In the western quarter, it is necessarily limited by the approach of the Caspian and Persian seas, towards each other; but expands to a much greater breadth, beyond the

* Now *Aderbigian.* It is probable that the name *Atropatia*, which Strabo (page 522) says, was derived from *Atropatus*, a Macedonian general, was rather a corruption, or an imitation of the other; which is said to be derived from the word *fire;* there having been a celebrated temple of the followers of *Zoroaster*, or the worshippers of fire, in the province.

† Ammianus Marcellinus, lib. iii. c. 9, says, that if Taurus (*Amanus*, it should be), did not prevent it, the Euphrates would have ran into the Mediterranean. But, as it afterwards runs about 800 miles before it reaches the Persian gulf, and in its way descends a vast number of rapids, which prevent the navigation upwards, it must needs be on an exceeding high level above the Mediterranean, at the place where it approaches nearest, to that sea.

Caspian, till again narrowed into a kind of *Isthmus*, by the vallies through which the Oxus and Indus flow; and whose fountains are separated only by the high ridge of *Caucasus*, or *Hindoo-Kho*.

Media (the present *Al Jebal* or *Irak Ajami*) is contained within that part, situated between the Caspian sea, and the Persian gulf; and is bordered on each side, towards the sea coasts, and towards *Assyria* (taken at large, according to our Author) by lower tracts of land; those towards the west and south-west, comprizing Babylonia and Susiana; and on the north, the provinces of the Cadusi, Tapuri, and Hyrcani, along the winding shores of the Caspian. But, of the part between the *two* seas, the low country forms only an inconsiderable proportion.

The highest ground in this tract lies towards the Caspian sea, as is shewn by the course of the waters of Media, which generally flow southward, into the Persian gulf, through Susiana.*

From Media, and the Caspian and Persian seas, eastward, the high level, as we have said, expands, with the country in general; but we are not in possession of the knowledge, requisite to mark its borders, with the same precision as on the west. It appears, however, to be very irregular in its form; and has many deep cavities in it: in particular, that which contains the course of the Heermund river, and the lake of Zurrah, in which it terminates; the beautiful valley of Soghd (the *Sogdiana* of the ancients, and one of the earthly paradises of the Orientals); and the plain of Rey (*Rages*) which terminates eastward in the great salt desert situated between *Media* and *Aria*.

The particulars known for certain, respecting the extent and boundaries of this portion of the high level, are the following:

That the northern part, between the Caspian sea, and mount Imaus, contains the ancient *Parthia*, *Margiana*, and *Sogdiana*;

* It must necessarily be much elevated, for Della Valle says, that at *Hamadan*, the ancient *Ecbatana*, the ink *froze* in the room in which he was sitting.

which, collectively, overlook towards the north, the low countries of *Chorasmia*, and the seats of the *Massagetæ*, at the Jaxartes.

That the middle part contains *Aria*, and *Bactriana*: the latter of which has within it, the heads of the river Oxus; and adjoins on the *east*, to *Imaus*. And lastly, that the southern part contains *Persia proper*, *Carmania*, *Arachosia*, &c.; which are bordered towards the Persian gulf, and the *Erythræan* sea, by the low tract of Maritime Persia (now *Gurramseer*), and by that of *Gedrosia*, or *Makran*.

The highest *continuous* ridge of this part, appears to be that, which passes by the south-east of the Caspian sea, and Hyrcania, between *Aria* on the north, and *Drangiana* on the south:* and from thence between *Bactriana* and the *Indian* provinces; where, as it approaches towards *Imaus*, which (as has been said) forms a part of a *yet more* elevated region, it swells to a great bulk and height, and is covered with snow till the month of August. This is properly the *Indian Caucasus* of the Greeks: in modern language *Hindoo-Kho*.

Thus, we have extended our view of the levels, eastward, to the extent of the space within the knowledge of Herodotus: and before we complete our view of the subject, by extending it to the shores of the Eastern ocean, we shall say a word concerning the lateral ridges, which project *southward*, from the great *Eastern* chain, so as to form a kind of vast *bason*, or *hollow*, inclosing *Assyria*† and *Arabia*, the *Persian gulf*, and the rivers Euphrates and Tigris, which it receives: for the inequalities within this space, are trifling in height, in respect of the mountains that surround it: particularly on the north.

From the body of Taurus, near the place where the Euphrates forces itself *through* it, at the northern extremity of Syria, a great ridge strikes to the south, inclining to the west, and first falling in

* See the note in page 174.

† That is, according to the ideas of Herodotus and Strabo, above quoted.

with the Mediterranean, at the gulf of Issus, it continues to skirt the eastern shore of that sea (like a mound or dam), under the names of Amanus, Lebanon, &c. to the southern border of Palestine. There, quitting the Mediterranean, it strikes towards the eastern coast of the Red sea, which it also shuts up, though at a greater distance than that, at which it skirted the former, and with a less elevation: and finally terminates in *Arabia Felix*.

Again, from another part of Taurus, in the north-east quarter of Assyria, a second ridge projects to the south, forming the eastern side of the great *bason* (as Amanus and Lebanon the western, and Taurus itself, the northern). This was named by the Greeks *Zagros*: it has been before described (in page 178) as the western descent of the elevated region of Media; and as shutting up Assyria, Babylonia, and Susiana, on the east and north-east. At the eastern border of Susiana, it approaches near the Persian gulf, which it shuts up on the side towards Persia; leaving only a narrow tract of lower land between; (that is *Gurrumseer*: see the last page); and also occasionally detaching lateral branches to the sea coast.

It finally terminates at the *neck*, or entrance of the Persian gulf; which entrance, between the ancient *Harmoza* (Ormus) and the Promontory of *Maceta* (Mussendom) seems to be nothing more than a *breach* in this wall of mountains; which is known to continue its course southward, through *Omman*, to a considerable distance: but which we have no authority for describing. It may possibly join to the mountains of Arabia Felix.

Thus the Persian gulf, and the courses of the Mesopotamian rivers, occupy the NE part of this bason: and independently of the irrefragable proofs of the declining of the level, eastward, from the Mediterranean to the Persian gulf, in the position of the latter sea, and in the courses of the waters; the travellers across the desert from Aleppo to Bussorah, remark the sinking of the levels, eastward; and that, not by a gradual slope (which might escape

their observation), but by distinct steps, or degrees; of which one remarkable one is at *Taiba*, and another opposite to *Hit*. They remark also, a tract of deep sand, in the quarter towards Bussorah; together with what appears to be the ancient line of the sea coast, at the termination of this sandy tract, in the Chaldean desert. It is not improbable that the same kind of slope extends all the way, across the Arabian desert, between the upper part of the Red sea, and the Persian gulf. We shall now pursue in a general way, the trace of the high level, from the place where we left it, to the Eastern ocean; in order that the subject may not be concluded too abruptly.

The ridge of IMAUS abovementioned (page 177) is properly the *crest* of the mountains that form the western declivity of a prodigious high level, which may be regarded as the firm body of Eastern Asia. It occupies a vast space in the central part of Asia, between *Persia*, *India*, *China*, and *Tartary*; and from the borders of which, the great rivers of that continent descend, in every direction; from the *Oxus* and *Jaxartes* on the west, to the *Amur* on the east; and from the *Ganges* and *Burrampooter* on the south, to the *Oby* and *Jenisea* on the north. This vast upland tract (the highest region perhaps, of the old hemisphere), contains generally, the country of the *Kalmucs*, of the *Monguls*, *Thibet*, and Eastern *Turkestan*. The countries that surround this tract, taken in a very general view, may be regarded as placed on a kind of *hanging levels*, or descents, along the skirts of it; since the waters flow so uninterruptedly from every side, to the surrounding seas or lakes. Those amongst them, which flow through the parallels subject to the periodical rainy season, have, by their *alluvions*, added vast plains, equal themselves to kingdoms, near the sea coasts; but the operation of alluvion proceeds but slowly, by such rivers as do not undergo very great alterations in their bulk, at different seasons; and such are those to the north. The greatest alluvions in Asia, therefore, are formed by those streams which descend from the southern part of the elevated region in question; that is, between Persia and China; which are

so situated, as to receive the supplies of rain brought by the southerly monsoons.*

To conclude the subject of the high level—there are several ramifications of it, that extend eastward, and north-eastward, to the Eastern ocean; in particular one, at the gulf of Korea, above Pekin: and another at the gulf, or sea of Ochotz, opposite Kamschatka: one of these may be taken for the final termination of *Taurus*, eastward. That point, however, in the idea of the ancients, occupied the same parallel with Rhodes, and the Caspian strait; and nearly the same meridian with the mouth of the Ganges; the continent of Asia being supposed to terminate there.

The reader will naturally conclude, that, in the above description, a very general idea, only, is intended; and that many tracts of *high* land, as well as *plains*, are purposely omitted; as being of little importance to the general result, whilst they might render it less intelligible. Such is the tract of high land in the south of India, separated from the high region, by the great valley of the Ganges; that also, which divides *India* from *China*; and others in China, and Siberia. Our aim, was chiefly to explain the circumstances of Western Asia; and particularly that part, which was the most relevant to the subject of our Author. It may not, however, be useless to account for the *opposite* courses of the great waters of Siberia, and those of Russia, between the parallels of 45° and 60°: that is, the Siberian waters run to the north, the Russian to the south. In effect, the Siberian waters not only originate from a higher level than the others, but continue their courses along a descent, which is in every part higher, until it aproaches the frozen sea. So that the whole of Siberia occupies a higher level than *Russia*, and the *Southern Steppe*; whilst the declivities of the two levels are in opposite directions, and would, if *produced*, *intersect* each other's plane: the Siberian level

* This ought not to excite suprise, when it is known that the quantity of rain which falls within the tract of the monsoons, is in most instances *double*, and in some *triple*, the quantity that falls in England.

declining to the north, the Russian to the south (from the parallel of 60°); so that the former is exposed throughout its whole extent, to the northern blasts; the latter is in *part*, sheltered.

Another circumstance respecting this level, appears worthy of consideration. It has already appeared, in this, and other parts of the work, that the whole body of *Eastern* Asia, from the southern front of mount *Emodus*, which overlooks India, to the neighbourhood of the frozen sea, stands on a *higher* level than the *western* part; and that the *western border* of this high level, is mount *Imaus*, which is continued under various names, through the Great Steppe;* and thence *northward* to the coast opposite *Nova-Zembla* (which may itself, be regarded as a continuation of the *chain*). So that the border of this level, lies in a direction not very far from the meridian, for the space of 40 degrees at least, from the heads of the Ganges, to Waygat's straits.

There is also reason to suspect, that China is on a higher level, than the lands on the west. It is well known, from the improvements in modern geography, that the high region of Thibet, &c. adjoins to China, on the west; and that from it, a mountainous ridge, or region, extends south or south-eastwards, separating the Peninsula of India, *beyond* the Ganges, from China. The great waters of China all run to the east; those of the Peninsula to the south; a strong indication of different levels, and it cannot well be supposed that China is the *lowest* of the two, when the astonishing length of course of the *Kian Keu*, is considered; and moreover that China is a colder region than India, in corresponding parallels.

* The rampart of Gog and Magog was near the foot of these mountains.

SECTION IX.

THE SUBJECT OF ASIA, CONTINUED.

Brief Description of the four *Regions of* Asia, *by Herodotus.—Observations on his Arrangement—His Error in the relative Positions of the* four *Seas, the* Mediterranean, Euxine, Caspian, *and* Persian, *to each other—continued to the Time of Strabo—Source of it.—This Error, one principal Cause of the Wanderings of the* Ten Thousand.—*Error of Herodotus, in appreciating the Breadth of the* Isthmus *of* Natolia.—*His Ideas respecting the Positions of* Persia, Media, Assyria, *and* Arabia—*The latter given under too confined Limits, by most of the Ancients.*—Aria, Bactriana, Parthia—Caspian *Sea, properly described as a* Lake—*its Hydrography corrected.—Great Plain, in Asia, described.*—Aria Palus, *the Lake of* Zurrah.—Sarangæans, *or People of* Sigistan.—Erythræan, *or Indian Sea*—Arabian *and* Persian *Gulfs, Members of it.—Arabian Gulf first took the Name of* Erythræan, *or* Red; *and the last that has preserved it.*—Erythræans, *the same as* Tyrians.—Euxine *Sea*—*Errors of Herodotus, respecting its Dimensions—compared in* Form *to a* Scythian Bow.—*Its Hydrography corrected.—Principal Rivers in Western Asia.*—Gyndes *divided by Cyrus.—The* Araxes *of Herodotus, meant for the* Jaxartes.

AFTER the long digression from the immediate matter of our Author's work, at the conclusion of the last section, we proceed to give his short description of the several regions of Asia, known to him: reserving however, the detail of the TWENTY SATRAPIES of DARIUS HYSTASPES, for a separate investigation.

Herodotus sets out with describing FOUR REGIONS in Asia; Melpom. 37, *et seq.*

I. The FIRST region included the space between the *two seas*, the gulf of Persia and the eastern part of the Euxine; and contained "the region occupied by the *Persians*, which extends southward to the *Red* sea: (*i.e.* the Erythræan or Indian sea.) Beyond these, to the north, are the *Medes:* and next to them the *Sapirians*. Contiguous to the latter, and where the *Phasis* empties itself into the *northern* sea (Euxine), are the *Colchians*. These four nations occupy the space between the two seas."*

II. "From *hence* to the *west*, two tracts of land stretch themselves towards the sea: the one on the north side, commences at the *Phasis*,† and extends to the sea, along the *Euxine* and the *Hellespont*, as far as the *Sigeum* of *Troy*. On the south side, it begins at the *Marandynian* bay,‡ contiguous to *Phœnicia;* and is continued to the sea, as far as the *Triopian* Promontory.§ This space of country is inhabited by 30 different nations." Melpom. 38.

III. "The *other* district (of the *two* abovementioned) commences in *Persia*, and is continued to the Red sea.‖ Besides *Persia*, it contains *Assyria* and *Arabia*, naturally terminating in the *Arabian* gulf, into which Darius introduced a channel of the Nile. The interval from *Persia* to *Phœnicia* is very extensive. From Phœnicia it again continues beyond *Syria* of *Palestine*, as far as Egypt, where it ter-

* It may be proper to advertise the reader, in this place, that Herodotus supposes the *Phasis* to be nearly under the same meridian as the head of the gulf of Persia.

† Here we have a proof that the Asia of Herodotus did not extend to the northward of the river *Phasis*. The proof is rendered more strong by the whole context of the chapters 37, 38, 39.

‡ This ought to be the *Myriandrian* bay, or bay of *Myriandrus:* in other words, the gulf of Issus. *Marandynia* was a part of *Bithynia*, and extended along the Euxine.

§ This was the Promontory of Asia Minor, opposite to the Island of *Cos*. The territory of *Cnidus* was named *Triopium:* Clio, 174. There was a temple consecrated to Apollo, on the Promontory of *Triope*, where games were celebrated; Clio, 144.

‖ That is, the *Erythræan* sea at large, or the sea between India and Arabia: not the Arabian gulf.

minates. The whole of this region is occupied by three nations, only. Such is the division of *Asia, from Persia, westward.*" Melpom. 39.

IV. "To the *east*, beyond *Persia*, *Media*, the *Sapinians*,* and *Colchians*, the country is bounded by the *Red* sea;† to the *north* by the *Caspian* and the river *Araxes*, which directs its course towards the *east*.‡ As far as India, Asia is well inhabited: but from India, eastward, the whole country is one vast desert, unknown and unexplored." Melp. 40.

Thus we have the *subdivisions* of Asia, as known to Herodotus. The first remark that arises, on a view of this statement, is, that the Author had not a just idea of the relative positions of the Euxine and Caspian seas, to the Mediterranean sea, and Persian *gulf* (or rather *sea*, as he did not know that it formed a *gulf*, there). For, he supposes the Caspian sea to be situated to the *east* of the meridian of Persia; in Melpom. 40; whence, the position of *Colchis*, in respect of *Persia* and *Media*, is inferred to be *opposite* to, or in the *same* meridian with *them*: for such a position, the description evidently intends. (The reader is requested to turn to the Maps No. I. and II.) Not that the space between *Iönia* and *Susa* (a route well known to our Author, as will appear in a future discussion), was *contracted* by this arrangement; for, the prolongation of the Euxine, westward, beyond the truth, made up in space, for the false adjustment of the *east end* of that sea. But, on the other hand, the breadth

* These are called *Sapinians*, *Sapirians*, and *Saspires* (or Saspirians), in different places; but all have a reference to the same people, who were situated between *Media* and *Colchis*.

† He can hardly mean, that the sea in question *bounded* this tract on the *east*, because it contradicts the rest of the statement; which implies, that *India* lies to the *east* of this tract. He must have meant "the country on the east of Persia," &c.

‡ We must read *west*; because by implication, in Clio, 202, 204, the *Araxes*, on which the Massagetæ are situated, runs into the *east* side of the *Caspian*. It will appear, in the sequel, that he confounds the Eastern *Araxes* (meaning the *Jaxartes*) with the *Araxes* of *Armenia*.

of Arabia, and Assyria, were contracted very far within their proper bounds, by the error of supposing the mouth of the Nile, and Cilicia, to stand opposite to each other; Euterpe, 34; but more particularly by the deficiency of distance between Egypt and Babylon; as will appear presently. The consequences of these errors, were, that a more northerly direction was given, both to the Arabian gulf, and the eastern side of the Mediterranean.

Several of these errors remained to the days of Strabo; for even the materials collected during Alexander's expedition, did not enable geographers to correct the *whole* error in the relative positions of the Caspian, Euxine, and Persian, seas, to each other, and to the Mediterranean. The true cause appears to have been, that no direct line of distance, from *Canopus* to *Babylon*, could be obtained; because the nature of the intervening ground (the Arabian desert) prevented it: and although the meridians of *Canopus* and the *Sacrum* Promontory (of *Lycia*) were pretty well adjusted, in respect of each other,* yet, as the line to Babylon, from the former, passed circuitously through Thaspacus and Arbela, a vast error in the direct distance (almost unavoidably) arose; through the default of means, to ascertain the various inflexions of the line of distance. Hence, Eratosthenes allowed no more than 5600 stadia, of 700 to a degree, between *Heroopolis* and Babylon: which is short of the truth by about *one fourth*. So that, although Babylon was really more than 3° of longitude to the *eastward* of the mouth of the Phasis, in Colchis, yet the just mentioned error, which amounted to 3° 3′ (it being 156 G. miles), threw it somewhat to the *west* of the Phasis, on the Map.†

* It was understood that these places were situated under the same meridian.

† But it is, perhaps, yet more remarkable that an error in the relative positions of the Caspian and Persian seas, should have existed to the present times. M. D'Anville placed the NW part of the Caspian *two degrees* of longitude too far to the east, in respect of the Persian gulf; by means of an error in the reported longitude of Astrakan. And yet the Arabian and Persian Tables have it right. The above error

An error of the like kind, or perhaps, a continuation, or extension, of the former one, by Eratosthenes and Strabo, was, the act of placing the Caspian strait (the pass through the *continuation* of mount Taurus: see above, page 174) in about the same meridian with the *entrance* of the Persian gulf; although it is really 4 or 5 degrees to the *west* of it. We have no doubt but that the 8000 stadia, allowed by Strabo, page 727, between that strait and the southern extremity of Persia, was meant for *difference* of *latitude*; in like manner as those lines between *Canopus* and the *Sacrum* Promontory (of Lycia); *Issus* and *Amissus*.

An additional proof of the supposed easterly position of the Caspian sea, even to the time of Strabo, is, the distance given by him, between *Seleucia* (at the Tigris) and *Hyrcania*, through *Artemita* (in Babylonia), which is 8500 stadia (compare Strabo, page 529, and 744); although 6000 appear more than sufficient.

We have given these instances of the errors of the Greeks, which were continued to the period of the writings of Eratosthenes and Strabo; and although they do not *absolutely prove*, that Herodotus lay under the same error, yet the context of his geography, has the *same kind* of derangement; and apparently to an equal *extent*; but as he gives no measures in this place, the quantity of his error cannot be ascertained, although it may be inferred.

The source of these errors, was, the difficulty of adjusting the meridians of different places, previous to the discovery of the polarity of the magnet; and of the improved and facile mode of taking observations of longitude. To these causes, the rapid improvements in modern geography, have been owing; and to the absence of them, that ancient geography has at all times been more deficient in the adjustment of the *meridians*, than of the *parallels*.

It is not at all improbable, that the error in the meridional distance, between the Persian gulf and the Euxine, was the cause of

had the effect of distorting the space, generally, between the Caspian sea and Constantinople.

Xenophon's keeping too far to the *east*, in his way through Armenia, towards *Trebizonde*. He, no doubt, adhered to the geographical system then in vogue in Greece (such as is given by Herodotus); and expected to find Trebizonde nearly in the same meridian with Babylon and Nineveh, although it bore about N 30° W from the latter. Alexander, by the same rule, must have supposed himself *nearer* to the Euxine, than he really was, when at the Jaxartes: which some of the Greeks actually took for the Tanais.*

The next error of magnitude in Herodotus, but which, however, had no material effect on the general system, was his supposing the *Isthmus* of Natolia (between the gulfs of Issus and Amissus) to be narrower than it really is, by near one half. He says, Clio, 72, that "an *active man* could not travel in *less* than *five* days, over this space:" and, in Euterpe, 34, that "a good traveller *may* pass from the mountains of Cilicia (Taurus) to Sinope, in *five* days." Now, it appears from the late observations of M. Beauchamp, who found the latitude of Sinope to be 42° 2′, instead of 41° 4′, as M. D'Anville places it,† that the Isthmus is not less than 4° of latitude across; or 240 G. miles. This would require a rate of $55\frac{1}{2}$ British miles, in direct distance, and certainly more than 60 by the road, for each day; a rate of travelling, *on foot*, which our Author certainly had not in contemplation. And, it may be conceived that, little more than half of this rate, that is 33 miles, by the road, is an ample

* Besides the mistake of 5° of longitude, in the first instance, it may be conceived that the geography of Alexander's land march, which had so many inflexions in it, might be very erroneous, when they had no guide for the line of direction, save the sun and stars. It is therefore possible, that they might suppose themselves to be no farther distant from the *Mæotis*, than the space occupied by the *course* of the *Tanais*.

† It is in justice due to Mr. Arrowsmith, geographer, to mention, that in his Map of Europe lately published; and drawn before the observation of M. Beauchamp at *Sinope*, was known; he had actually placed Sinope within 3 or 4 minutes of the observation in question. We understand that he was led to this determination, by some surveys taken by Mr. Eaton (author of the View of the Turkish Empire), between Constantinople and *Karempi Boroun*, or the Promontory of *Carambis*.

allowance for a courier, on foot, when the journey is continued five days: and this is the rate at which the Indian couriers do actually travel.* In consequence, Herodotus could not suppose the Isthmus to be more than 125 G. miles in breadth: that is, 115 less than the truth.

Eratosthenes allows 3000 stadia,† or 257 G. miles; which is not greatly beyond the truth, if taken as *direct* distance, and at the standard of 700 to a degree: and if as *road* distance, somewhat less than the truth, as 228 would be the result, allowing $\frac{1}{9}$ for inflexions. So that, Eratosthenes, at any rate was not far from the truth.

Ptolemy, at a later date than Eratosthenes, gives a breadth of $6\frac{1}{2}$ degrees, to the Isthmus, in the line between the gulfs of Tarsus and Amissus. Pliny has 200 MP. only; vi. c. 2; which falls below Herodotus. Concerning a part so well known, one is surprised to find such a variety of statements: for it seems, that the breadth was well known from the marches of Alexander; as the statement of Eratosthenes may be supposed to be founded on it.

Of the *length* of Asia Minor, and generally speaking, of the proportions of its parts, bating the above error, Herodotus was probably well informed. He was *at home*, in Iönia (as well as on the opposite side of the *Ægean* sea): for his account of the Satrapies of Darius, shews, that he knew Asia Minor in detail; although he might never have crossed the Isthmus. He, as well as some others, called it the Asiatic *Chersonesus*, or Peninsula; which name the *supposed* form, warranted. In Melpom. 12, he places *Sinope* in this *Chersonesus*.

With respect to his FOUR GRAND DIVISIONS of ASIA,‡ we shall offer the following general remarks, and corrections: meaning however, to be more particular in the account of the Satrapies.

In the FIRST division or region, the Author obviously meant to include in Persia, the fertile part of *Carmania*, under the name of *Germania*; and apparently *Susiana* also, under the name of Cissia, or

* See the Memoir of the Map of Hindoostan, section vii.

† Strabo, page 68.

‡ See above, page 184.

Kissia. Media includes *both* the countries of that name (*Major* and *Atropatia*), together with Elymais, Matiene, the Saspires, or *eastern* part of Armenia, and part of Iberia. Also Colchis; and with it, many of the *Caucasian* nations. It would have been more correct, to have called this, the tract between the THREE seas, Euxine, Erythræan, and Caspian; instead of the TWO seas, by which the two former are intended.

The second region comprized the *Western* Armenia, and Asia Minor; as is evident from the context. The *Eastern* Armenia, we have seen included in the *Saspires*. In Terpsichore, 52, the Euphrates divides *Armenia* from *Cilicia*, in the road from Sardis to Susa.* Consequently, *Upper* Mesopotamia, is reckoned here, as in some other places, to *Armenia*; for instance, in Clio, 194, where the boats are said to "descend from Armenia to the province of Babylonia," by the Tigris. We must regard mount Taurus as the southern boundary of this region, although not expressed as such.† It has already been said, that our Author is deficient in his attention to this principal feature in the geography of Asia; as he only mentions it incidentally: that is, he calls Taurus the mountains of *Cilicia*, in Euterpe, 34; the mountains *above Ecbatana*, in Media, in another place; and those above the sources of the Euphrates and Tigris, in a third.

The THIRD region contained the *south-west* part of Asia, included between the different seas, on all quarters except the *north*, where it was shut up by mount *Taurus*; and on the north-east, by Media, and Susiana. The Isthmus of Suez forms a trifling exception on the *west*, also.

Within this division, under the name of ASSYRIA, are comprized not only Assyria *proper*, situated beyond the Tigris; but *Babylonia*,

* It will be explained hereafter, that *his Cilicia* included the northern provinces of *Syria*: that is *Cyrhestica*, *Killis*, &c. as well as Cilicia *within* Amanus.

† Or, more critically, mount *Masius*, the southernmost branch of *Taurus*.

the tract between the Euphrates and Tigris (*afterwards* called *Mesopotamia*), and *Syria*. There was also included in it, *Arabia*, more extensive in itself than all the rest, collectively: and moreover, the small, but interesting and important states of *Phœnicia*, and *Syria* of *Palestine*. And yet this vast extent of space, was said to comprehend three nations only.

There is no question but that our Author supposed Arabia to be much less than the truth: in the first place, because he believed that the Persian gulf did not exist, and consequently might suppose that the sea coast ran in a direct line from the mouth of the Euphrates, to the entrance of the Red sea: and secondly, because he supposed the head of the Red sea to be nearer to the Persian sea. But of the *length* of Arabia, he was apprized, because he knew the extent of the Arabian gulf; and that Arabia *bordered* on it, throughout.

The ancients in general thought Arabia of much less extent than it is. Pliny, vi. c. 28, compares the *Peninsula* of Arabia, with *that* of Italy, in point of *form*, and *size*; and of *position*, in respect of the heavens. He was right only in the last particular. The Arabian gulf is about *twice* the length of Italy: and one is surprised that Pliny should have been under so great a mistake. But the context serves to shew, that it was the common opinion, that Arabia was less than it really is.

Assyria is the same with *Babylonia*, in Clio, 106, 178; Thalia, 155; and in other places. Both *Babylon* and *Nineveh* were reckoned Assyrian cities.

Syria, in the contemplation of Herodotus, was only a portion of *Assyria*. He distinguished the *Syrians* of *Palestine* from the *Syrians* of *Cappadocia*; but we do not find that he any where distinguishes Syria *proper*, as a *separate* country from *Assyria*. Strabo reckons it a *part* of *Assyria*.

The remarkable fact of there being but *three* nations within this space, which includes Assyria, Persia, and Phœnicia, as well as Arabia, shews that the Arabians must have extended over the

greater part of Assyria and Babylonia. Part of Mesopotamia was called Arabia, by Xenophon and Pliny. Perhaps we may regard the whole of this region, except what lies to the east of the Tigris, as Arabia, on an extended scale.

The FOURTH, and last region of ASIA, lay to the *east* of Persia and Media, and was bounded on the *north* by the Caspian sea, and river *Araxes* (meaning the *Jaxartes*; or possibly there may be some confusion, between it, and the lower part of the *Oxus*); on the *south*, by the *Erythræan* sea; and on the *east*, by the utmost known part of India.

The countries situated within these limits, our Author does not *specify*: but it is obvious by his account of the Satrapies, that most of the principal sub-divisions were familiar to him: these were, Hyrcania, Parthia, Aria, Bactria, Sogdia, Chorasmia, Saca, Zaranga, the countries of the Parycanians, and Ethiopians of Asia (under which are designed the Gedrosians); and other southern tribes: and finally, the Indians on both sides of the river Indus.

The Caspian sea is a principal feature in this region. This, he rightly describes as a sea, distinct from all others: that is, a lake: Clio, 203. The dimensions given, are not very different from the truth; only that the width is made too great, if meant of the Caspian *alone*: but as Alexander, and all the geographers from his time, to that of Delisle, included the *Aral*, as a part of the Caspian, it is probable that Herodotus did the same, since he conducts the Jaxartes into the *Caspian*, and not into a *separate lake*. The length assigned to the Caspian, by our Author, is 15 days' navigation for a *swift oared* vessel; and the breadth 8. The former, according to the idea that may be formed of the rate of sailing of ancient vessels, appears consistent; but the breadth is too irregular to be reduced to rule.

The real length of this sea, which may now be regarded as pretty well known, is about 640 G. miles, in a N by W, and S by E direction; and it contracts to less than 130 miles at the northern neck,

and to about 100 at the southern neck.* The 15 days' voyage of our Author, may perhaps approach towards 600. Eratosthenes and Strabo supposed it to be 6000 stadia, equal to 515 miles. Like the Euxine, and other narrow seas, it has always been represented too wide.

By the description, we must understand that the position of its length was supposed to be nearly north and south; which, generally speaking, is pretty much the case: he says "*Caucasus* bounds it on the *west*; the largest, and perhaps, highest, mountain in the world; and inhabited by various nations;" Clio, 203. And, "it is bounded on the *east*, by a plain of prodigious extent, a considerable part of which forms the country of the *Massagetæ*, (204.)—a great and powerful nation, whose territories extend beyond the river *Araxes (Jaxartes)* to the extreme parts of the East." (201.)

This knowledge concerning the unconnected state of the Caspian, in respect of other seas, was lost in the time of Eratosthenes, Strabo, and Pliny; but regained in that of Ptolemy, who restored its form of a lake, but under such dimensions and proportions, as shew that the Aral was mistaken for a part of it.†

As the subject of the *Massagetæ* and *Sacæ* is intended to be spoken of fully, in a separate chapter, under the head of EASTERN SCYTHIANS, of which they are members, we shall speak very generally of them, in this place. To the Massagetæ are assigned the vast plains to the N and NE of the Sirr or Sirt river (the Jaxartes), the Caspian, and Aral; and to the west of the mountains of Imaus, or Kashgur: in other words, the principal seats of the Kirgees tribes in the present times.

* In the Map No. V. the form and dimensions of the Caspian sea (as well as of the Euxine) are given according to the latest observations, and most improved construction.

† One is surprised to find in M. Gosselin, page 103, an idea that the Caspian was once joined to the North sea by a strait, according to the opinions of the Greek geographers!

The Sacæ were situated towards the upper parts of the rivers Oxus and Jaxartes, by the testimony of authors who wrote posterior to Herodotus; but *he* places them in and about *Bactriana*. Sacæ was a term applied to Scythians in general, although it belonged in strictness to a tribe, subject, as it would appear, to the Persians; since they filled a conspicuous place amongst the crews in the naval armament of Xerxes.

Thus the Massagetæ and Sacæ occupied the north-eastern extreme of the habitable part of Asia, according to the system of our Author; but the former of the two, were entirely independent of the Persian empire.

Herodotus gives rather a confused account of a large plain, in this part of Asia. It was surrounded on every side by a *ridge of hills*, through which there were five different apertures: Thalia, 117. This plain, he says, belonged *formerly* to the Chorasmians, who inhabited those hills, in common with the Hyrcanians, Parthians, Sarangæans, and Thomaneans: but that after the subjection of these nations, to Persia, it became the property of the GREAT KING. A great river named *Aces*, flows from these hills; and was formerly conducted through the openings of the mountains, to water the abovementioned countries. That, on the Persians taking possession, they stopt up the passages, and thus formed the plain into a *sea*, or *great lake*, depriving the nations around of their accustomed share of water; who were therefore reduced to the most extreme distress; but were afterwards, on application to the king, supplied with the necessary quantity of water, for their cultivation; after which the passages were again shut. And thus he compelled the payment of an additional tribute.

This story, so improbably told, seems to relate either to the river *Oxus*, or to the *Ochus*, both of which have undergone considerable changes in their courses; partly by the management of dams, partly by their own depositions. For they certainly flow near the countries of the Chorasmians, the Hyrcanians, and Parthians: but the

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Sarangæans, if taken for the people of *Zarang*,* that is, *Sigistan* (as, no doubt, they ought to be) are out of the question, as to any connection with these rivers.

But the country of Sigistan, (which is of a singular nature, as being a hollow tract surrounded by mountains, and having a river of considerable bulk (the Hindmend) flowing through it, and terminating in a lake, after forming vast alluvions) may have been confounded with those, through which the *Oxus* and *Ochus* flow. It seems, however, to be clearly understood that there is no outlet for the waters of the Hindmend: since the level of Sigistan is lower than that of Korasan and Aria, through which the Oxus and Ochus flow.

The lake of Zurrah, into which the Hindmend discharges itself, is about 100 miles in length, and 20 broad at the widest part: and is said to be fresh.† The country through which the Hindmend flows, has all the characteristics of the alluvial tracts, at the mouths of great rivers; as Egypt, Bengal, &c. This was the celebrated tract which is said to have formed the *appanage* of RUSTUM;‡ and whose inhabitants, from the relief which they afforded to CYRUS, after his Eastern expedition, were named *Euergetæ*, or benefactors; and had considerable privileges and immunities granted them, which Alexander had the generosity to confirm. Much more will be said on this subject, under the heads of *Sarangæans* and *Sacæ*, in the detail of the Satrapies.

Of the general form and extent of the *Erythræan* sea, (which, according to our Author, is that which washes the coasts of *Arabia*, *Persia*, and *Western* India, and terminates southward, at the extremities of Arabia and India) he seems to have had some idea; by assigning a due length to the Arabian gulf, which opened into it;

* Zarang appears in the Tables of *Nasereddin* and *Ulugbeig*; and no doubt represents the ancient capital of the *Zarangæi*. It is reckoned a very ancient city.

† The *Aria Palus* of Ptolemy.

‡ D'Herbelot, article *Segestan*. RUSTUM resided there; as it is said the kings of Persia did, previous to their establishment at *Estakar*, meant for *Persepolis*.

and by describing the land of India to extend a great way to the southward of the Indus; Thalia, 101. But as, on the other hand, he supposed Arabia to be the most southerly land of Asia, Thalia, 107, 115, he, of course had no idea that India projected *so far* to the south, as it really does. The boundary of the Erythræan sea, would therefore be a line drawn from the outlet of the Red sea, or Arabian gulf, to the south extremity of India. All beyond this line, southward, was by him called the *Southern* ocean; and that with strict propriety: for he must have supposed it to embrace *South Africa*, and afterwards to join the Atlantic; according to his own words, in Clio, 203; "the sea frequented by the Greeks (*i. e.* the Mediterranean), the Erythræan, and that beyond the Pillars, called the Atlantic, are all one ocean." The Southern ocean is pointedly marked, in Melpom. 42, where "the ships of Nechao (destined to surround Africa) took their course from the *Red* sea, and entered the *Southern* ocean." Another indication of this ocean is in Thalia, 17, where "the *Macrobian Æthiopians* inhabit that part of *Lybia*, which lies towards the *Southern* ocean."

Herodotus, as we have seen, denominates *Erythræan*, or *Red*, the whole of that sea which lies between India, Persia, and Arabia (our sea of *Omman*); together with its gulfs or bays. But he, notwithstanding, distinguishes the *Arabian gulf* very pointedly; as in Euterpe, 159, "that part of the *Arabian gulf* which is *near* the *Red* sea." In the preceding chapter, the *Arabian gulf* is said to be 1000 stadia from the *North* sea, at mount Casius. It is also called *Red* sea in the same place. Again, in Melpom. 39, and 42, the *Arabian gulf* is discriminated.

But the *Persian gulf*, he no where discriminates in this manner; and there is every reason to believe, that the same man, who knew better than Strabo and others, what were the circumstances of the Caspian sea, did not believe that the Euphrates emptied itself into a gulf, closely shut up by a narrow strait, like the Arabian gulf, but into a corner, or bay, of the greater ocean. For, he makes no

distinction, as Strabo and others did (who derived their information from the expedition of Alexander, or the voyage of Nearchus), between a *Persian gulf*, and an *Erythræan* sea; although he makes so clear a distinction between the Erythræan sea and the Arabian gulf. For he says, in Clio, 180, " the Euphrates pours itself into the *Red sea :*" the same is said of the Tigris, in Erato, 20. In Melpom. 37, " the region occupied by the *Persians*, extends *southward* to the *Red sea!*"

When he speaks of the Islands of the *Red* sea (to which *exiles* were sent, and whose inhabitants accompanied Xerxes in his expedition to Greece), he could only, from circumstances, mean the Islands of the Persian gulf. See Thalia, 93, and Polym. 80. In Melp. 40, the *Red* sea bounds the country on the *east* of *Media* and *Persia*. Nothing but an *open* sea, is here expressed; and it is probable that Herodotus knew of no distinction of this kind. At the same time, the Persian gulf ought to have been known to those, who knew the detail of the voyage of *Scylax* of *Caryandra*, from the Indus to the head of the Arabian gulf, as mentioned in Melpomene, 44.

As the Arabian gulf is the only part of this ocean that has retained, in modern times, the name of RED SEA, so we conceive it to have been the first that received it. The country of *Edom*, or *Idumea*, bordered on the upper part of the Arabian gulf, and probably gave name to it, amongst the neighbouring people of *Palestine* and *Phœnicia :* and the Greeks, no doubt, obtained from the latter, both the knowledge of this sea, and its name *Edom*, or *Red;* which they translated into *Erythræan.** Pliny says that the *Tyrians* were called *Erythræans* from their former place of abode near the *Red* sea: that is, the Arabian gulf; lib. iv. c. 22. This, then, may readily be conceived to have been the origin of the name, as well amongst the Greeks, as the Phœnicians, and people of *Palestine*. Amongst the Jews, we find " the *Red* sea in the land of *Edom*,"

* We have here the support of the venerable NIEBUHR. Arabia, p. 360, French edition.

(1 Kings, ix. 26.) and of "the sea shore in the land of *Edom*," (2 Chron. viii. 17.)

The Greeks would naturally extend the name to as much of the adjoining seas, as they became acquainted with: as for instance, to the sea of *Omman*, and the *gulf of Persia*, as parts of it. The story of King *Erythras* and his tomb, in one of the islands of that gulf, may have been *invented* afterwards.

Arrian, whose ideas of the geography of this quarter of Asia, seem to have been collected from the voyage of Nearchus, calls the Persian gulf, the Erythræan sea: and if the story told by Nearchus could be credited, the name was first of all applied to this gulf; for he says, that the tomb of King Erythras, which was situated in one of its islands, gave occasion to the gulf being named from that king. This, however, we regard as a tale. But Arrian, in other places seems to regard the sea of OMMAN, at large, as the *proper* Erythræan sea: and speaks of the Persian and Arabian *gulfs*, merely as *such*; and as being distinct from the Erythræan sea, itself.

Concerning the Euxine, or Black sea, it has already been stated (page 53), that our Author gives it much too extended dimensions; and that it was occasioned by his following an erroneous calculation of the Egyptian schœne (page 19). For he reckons it 11,100 stades in length, between the Bosphorus, and the river Phasis; 3200, or 3300 in breadth, between Themiscyra and Sindica; Melp. 85, 86. But according to the Map of M. ZACH, founded on the latest observations, this sea cannot be more than 600 G. miles in length, or about 7200 stades, of our mean scale, 718.* Its greatest breadth is

* In M. ZACH's Geographical Ephemeris (for July, 1798), there is a new Map of the Euxine, constructed on the authority of the observations of M. Beauchamp, and those in the Mem. of the Academy of Petersburgh, &c.

This publication by M. ZACH, commenced with the present year; and promises to be of the greatest advantage to geography, as well physical as political, by its sending forth to the world, for the use of the present age, or preserving for that of a future one, a great collection of valuable materials.

about half as much, in the line between *Amastris* and *Odessus*, near the mouth of the Borysthenes; and not in the place, Herodotus mentions. However, he is not much out in the breadth itself, which may be taken at 3600 stades. But he was wrong in his ideas of the relative positions of its coasts to each other, for he thought that the mouth of the Danube was opposite to Sinope; Sindica to the Thermodon river; and the Bosphorus of Thrace to the river Phasis.

Notwithstanding the opportunities that have occurred to Europeans, in latter times, the form and dimensions of this sea, have been left to the present time, more incorrect even than those of the Caspian. To give a few instances—the town of Sinope, and Promontory of Carambis, have been placed *one degree* of latitude too far to the *south*. The eastern bason of the Euxine has been represented 100 G. miles too wide, between the mouth of the Halys river, and the nearest opposite coast. And lastly, the narrowest part, between Carambis and the Krimea, is 30 too wide, where the whole width is no more than 113. The high land of the Krimea is visible from Carambis.*

Some of the ancients had an idea, that the form of the Euxine was that of a *Scythian bow*, when *bent*.† The idea was not a bad one, if the Scythian bows were like those of the modern Turks: but then, it is to be considered, that the ancients supposed the south coast to form nearly a right line; in which they were mistaken.

The principal rivers of Western Asia, have been already spoken of, as known to Herodotus; in the course of our remarks. The

* The error of Strabo was much greater; p. 125. He reckons the distance across 2500 stadia, or 214 G. miles. It is wonderful how such a mistake could have happened, when one of the lands can be seen from the other.

† Strabo, p. 125. He supposed the circumference of this sea to be 25,000 stadia; which was too high a calculation, by one-fourth.

In No. V. its form and dimensions may be seen, agreeably to M. Zach's idea. Its area cannot differ much from that of the Caspian sea; with which the reader may have an opportunity of comparing it, in the same Map.

Indus is said to be the second river that produces crocodiles (the Nile, the first, we may suppose); but as he also mentions the great *African* river (our Niger), as producing abundance of these animals, this is of course the *third* river of the same kind. The Ganges he knew not.

The source of the Euphrates he places in Armenia; but that of the Tigris he does not point out: although he speaks of the sources of two of its adjuncts (the greater and lesser *Zab*, under the same name of *Tigris*), which flow from *Armenia* and *Matiene*. The Euphrates and Tigris, are both said to fall into the Red sea; Clio, 180 and 189: and from the mode of expression, it may be understood, that they kept distinct courses, to the sea, as they are known to have done in the time of Alexander; although, at no great distance of time afterwards, they became united, and joined the sea, in a collective stream.*

The Euphrates and Tigris spring from opposite sides of mount Taurus, in Armenia: the former from the *upper* level, before described; the latter from the southern *declivity;* and certain of the sources of the two rivers, are only separated by the summits of Taurus. And yet, notwithstanding this vicinity, the sources of the Tigris, by being in a *southern* exposure, (where the snow melts much earlier than at the *back* of the mountains, and in a more *elevated* situation,) occasion the periodical swellings of this river, to happen many weeks earlier than those of the Euphrates. Of the two, the Tigris seems to be the largest body of water.

The river *Gyndes*, by the description given by Aristagoras, Terpsichore, 52, answers to the *Diala*, which joins the Tigris, just above *Modain* (the ancient *Ctesiphon* and *Seleucia*, collectively); but this will not agree with the circumstance of CYRUS' crossing it, in his way from Susa to Babylon; Clio, 189: for the Diala does not lie

* These facts are very clearly collected from the history of Nearchus's voyage, and from the testimonies of the ancient geographers. The Cyrus and Araxes, likewise, kept distinct courses in ancient times.

in the way. The Gyndes, which was *divided* by Cyrus, should rather be the river of Mendeli, which descends from the quarter of mount *Zagros*, and passes by the country of *Derne*, or *Derna*,* probably the *Darnea* of Herodotus; for he says, Clio, 189, that the Gyndes rises in the mountains of *Matiene*, and runs through the country of the *Darneans*, in its way to join the Tigris. (M. D'Anville supposed *Dainawar* to be meant, but in our idea, the waters of Dainawar descend to Susiana.)

Considering the imperfect state of the Grecian geography in this quarter, it is not at all improbable that some error or confusion may have arisen, concerning this river. To shew that our Author was not clear in his ideas of the relative positions, here, we need only mention that the city of *Opis* is by him implied to stand in a situation *below* the confluence of the Tigris and Gyndes. Now, according to the history of the retreat of the Ten Thousand, Opis cannot stand so low even as the mouth of the Diala, for it was no less than 20 parasangas *above Sitace*;† which city appears pretty clearly to have stood *above* the mouth of the Diala, since the Greeks did not cross it in their way. The reader is here referred to the Map of Babylon and its environs, No. VI.

As to the story of Cyrus's dividing the *Gyndes*, into 360 channels, it is a very childish one, in the manner in which it is told: as, that Cyrus was displeased with the river for being the occasion of drowning one of the sacred horses; and therefore destroyed its character, as a river, by dispersing it into 360 artificial canals.

The motive however, might possibly be this: Cyrus, unexpectedly found the river swoln, and too deep to be forded, and might be unprovided with embarkations, by which his army might cross it.

* The country of DERNA according to *Niebuhr*, adjoins to PERSIA, but belongs to the TURKS; and forms a part of KURDISTAN. Otter, i. 155, speaks of the river *Derne*, which falls into the river *Diala*: and in p. 175, of the *fort* of the same name.

† Anabasis, lib. ii.

The remedy was the most natural imaginable, when so vast a multitude was assembled, by drawing off a large proportion of the water from its channel, in order to render it fordable. It was equally natural to employ at once, as many people as possible, on the work; which would give occasion to marking out a vast number of channels, on which they might all be employed at the same instant. The absurdity then, will only lie, in the *manner* of accounting for the action itself. But if the reason of the thing, will not account for it, we may quote an example in point, from our Author himself; in that of Crœsus dividing the stream of the Halys, during his expedition to Cappadocia, and previous to that of Cyrus against Babylon.*

The *Choaspes*, which passes by the city of *Susa*,† has a deep channel. It is the only river of *Susiana*, spoken of by our Author; and this being a *country of rivers*, in effect, the drain of Media, Elymais, Cossea, &c. and formed chiefly from alluvions, it may be collected from his silence, that the Greeks of his time, knew little concerning it. The waters of the Choaspes, are particularly celebrated, on the score of their being the particular beverage of the Persian kings;‡ Clio, 188. Here it may be remarked, that the Asiatics are more particular in their choice of water, than Europeans: perhaps it may be, because they drink more of the pure element.

* Clio, 75. "Whilst Crœsus was hesitating over what part of the river he should attempt a passage, as there was *no bridge* constructed, THALES (the Milesian) divided it into two branches," &c.

† It is proper to remark, that the position of this ancient, and celebrated city, has been hitherto fixed at the present *Tostar*, or *Suster*; but differing from our brethren, we have placed it at *Sus*, 44 G. miles more to the NW, or nearer to Babylon. The reason for this alteration, cannot, with propriety, be detailed in this work; but belongs to another, on the subject of Persia, &c. The supposed *Choaspes* will then be the river that descends from the countries of *Dainawar* and *Kirmanshah* in Al Jebal, or *Media*.

‡ Our MILTON, who seldom falls into errors, in matters of history, has confined the *use* of the waters of the *Choaspes*, as a beverage, to *kings*, *alone*; instead of confining the kings, to the use of *those waters*.

Several rivers of Asia Minor, are mentioned, but without any particulars relating to them. It may be supposed, that all the principal streams of this region were known to our Author, although there was no necessity for introducing them. The *Thermodon* is mentioned as being the seat of the Amazons; Calliope, 27; Melp. 110; and the *Parthenius*, in Euterpe, 104, together with the former, as bordering on the Syrians of Cappadocia; the *Halys*, in Clio, 7. and 72, as the line of separation between the empire of Lydia, subject to Crœsus, and that of the Medes. It is described in Clio, 72, to flow from the mountains of Armenia, passing through Cilicia, and dividing the *Matienians** on the *right* (east) from *Phrygia* on the left; and then stretching towards the north, it is described to separate the *Syrians* of Cappadocia from *Paphlagonia;* which latter is situated to the *left* of the stream. Arrian seems to dispute this account of its course; saying, that it flows from the *east*, not from the *south:* however, the report of Herodotus, is certainly just.

Herodotus falls into a great mistake respecting the source of the river *Jaxartes*, which he calls *Araxes*. Strabo, in one place, calls it by the same name, as will be seen in the sequel, but he was too well informed, to fall into the error respecting its source.

Our Author speaks of the *Araxes* as the only considerable one, known to him on the east of the Caspian sea. The following are the passages relating to it, collected from his history of the expedition of Cyrus the Great, against the Massagetæ; Clio, 201, *et seq.*

"The nation of the Massagetæ lay *beyond* the *Araxes*—some reckoned this river *less*, others *greater*, than the Danube. There are many islands scattered up and down in it, some of which are nearly equal to *Lesbos* in extent—like the *Gyndes*, it rises amongst the *Matienian* hills. It separates itself into 40 mouths, all of which, except one, lose themselves in the fens and marshes—the larger stream of the Araxes continues its even course to the Caspian."

† The reader must not confound *this* Matiene with that of Media. See the xviiith Satrapy of Darius Hystaspes, and also section xiii.

" The Caspian is bounded on the *east*, by a plain of prodigious extent, a considerable part of which formed the country of the *Massagetæ*, against whom Cyrus meditated an attack—he advanced to the Araxes, threw a bridge of boats over it—passed it with his army, from *his own* territories into those *of the enemy*, and advanced beyond it," &c. Clio, 204, 205, 206, 208, 211.

In this description, the *Jaxartes* and *Oxus (Sirr*, and *Jihon)* appear to be confounded together; (he had perhaps heard certain particulars of both rivers, but might refer them to one, only); for there are circumstances that may be applied to each, respectively; although *most* of them are applicable only to the former. It may be observed, that our Author mentions only *one* large river in this part of the empire of Cyrus; that is, the river which separates it from the Massagetæ, and which was unquestionably the Sirr or Jaxartes; for there is no question that Sogdia was included in the empire of Cyrus;* and it lay *between* the Oxus and Jaxartes. The Oxus therefore, has no *distinct* place, in the geography of our Author, although a river of much greater bulk and importance than the Jaxartes. But that the *Oxus* was intended, when he says that the larger stream continued its even course to the Caspian, appears *probable;* although the numerous branches that formed the large islands, and were afterwards lost in bogs and marshes, agrees rather to the description of the *Aral* lake, and lower part of the *Sirr*. It is indeed possible, that the *Jaxartes* may, at some period have sent a branch into the *Oxus;* or, *vice versa*, the *Oxus* into the *Jaxartes;* but no such idea is warranted by the ancient descriptions.

Strabo, as we have said, describes it under the name of *Araxes*, p. 512; and seems in this place to follow Herodotus, both in the *name* and *description* of it: as, that it borders on the country of the Massagetæ, and affords a retreat to them, in the islands formed by

* Alexander saw a city, or cities, that had been founded by *Cyrus*, in Sogdia, near the *Jaxartes*, and one of them bore his name. But the modern empire of Persia, or IRAN, is properly bounded by the Jihon, or Oxus.

the division of its streams; and in its marshes: as also, that one branch of it, alone, ran into the *Hyrcanian* sea *(Caspian)*. As Strabo describes this river in another place, under the name of *Jaxartes*, p. 510, 514, 518, and the *Oxus* also in *its* place, it appears that he must have taken the *Araxes* for a *distinct* river: and, it is not improbable that he copied the passage from Herodotus, without rightly understanding the subject of it.

The remarkable mistake of our Author's deriving *this Araxes* from the mountains of *Matiene*, and giving it an *easterly* course (Melp. 40), must have arisen from his having *heard* of the Armenian Araxes, and confounded it with the other. There is no possibility of getting rid of his error, in this matter; for he refers the source of the Massagætan Araxes to the same quarter with that of the *Gyndes*. It can only be said, that it is a prodigious mistake.*

Such was the ASIA of HERODOTUS, in respect of its general extent and subdivision. We shall next proceed to illustrate such of the subdivisions, as the authorities afford the means of describing.

* It is proper to observe, that there is much confusion in some of the ancient authors, between the *proper* Tanais at the Mæotis, and the Jaxartes, which was improperly called Tanais, by the followers of Alexander; from a supposition, probably, that it was the head of the other river: and there is little doubt but that they supposed their station on the Jaxartes to be much nearer the Mæotis than it really was. It has appeared that the Araxes was also confounded with the Tanais and Jaxartes: particularly in Diodorus, lib. ii. c. 3.

SECTION X.

OF EASTERN SCYTHIA; OR THE COUNTRY OF THE MASSAGETÆ.

Herodotus in Doubt whether the MASSAGETÆ *were to be classed as* SCYTHIANS—*regarded as such, by succeeding Greek Writers.—Distinction of Scythia,* within, *and* beyond, IMAUS—*Limits of both Countries, respectively.—The* Imaus *of Ptolemy, recognized in modern Geography—Vast Error of Ptolemy, and the modern Geographers, in the Extent of* hither *Scythia.—The ancient Geographers had a very limited Knowledge of* Eastern Scythia; *and of these, Herodotus perhaps, the most limited—extended by the Expedition of Alexander; and still more, by the Commerce with* Serica, *for* Silk. —Issedonians, *the first Nation beyond* Scythia.—*By the* Massagetæ, *Herodotus intended the* Eastern Scythians, *collectively.—Opinions of different Authors, respecting the Tribes of Eastern Scythians: Arrian, Diodorus, Strabo, Pliny, Ptolemy, Justin—It may be collected, that they reckoned Three great Tribes; the* Massagetæ, Sacæ, *and* Dahæ; *besides many lesser ones—*SACÆ, *although the Name of a particular Tribe, was extended by the* Persians, *to* ALL *the Scythians.—Geographers overcome, by the Number and Names, of Scythian Tribes.—Authorities for the geographical Positions of the several Tribes of* Massagetæ, Sacæ, Dahæ, Jaxartæ, Abii, Pasiani, *and* Tochari.— *Conjectures respecting the Name of the* Kossacks; *and of the Names of the Rivers* Jaxartes *and* Oxus. —*Remarks on the Expedition of* CYRUS *against the Massagetæ.—* Justin *more circumstantial than* Herodotus.

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be added, that the people, thus collectively denominated Massagetæ, by Herodotus, who had himself only heard of them in the gross, were in later times found to consist of many tribes, or nations, which had each of them a distinct appellation.

We propose to treat the subject, not merely according to the ideas of our Author, but rather according to those of the ancients, at large: in which disquisition, however, the ideas of Herodotus will be made fully to appear.

EASTERN SCYTHIA, which is the country of the Massagetæ, according to Herodotus, was formed into TWO natural divisions, by the chain of mount *Imaus*.

Scythia intra Imaum commenced on the west, either at the river *Daix (Jaik*, or *Daek)*, or at the mountains of *Rhymnicus (Ural)*: and extended eastward to the great chain, that divides in the first instance, the TWO BUCHARIAS; and in its course farther northward, the countries of Ferganah and Western Turkestan, from Kashgur; it being, in effect, the *Imaus* in question; concerning which, as well as the adjacent countries and levels, we have fully spoken in page 176, *et seq*. Accordingly, Scythia *within* Imaus, contained the countries since known by the names of Desht Kipzak, *Western* Turkestan, and the northern part of Ferganah. The Caspian and Aral seas, and the river Sirr (Sirt, or Jaxartes) formed its general boundary on the south. Northwards, its boundary is not clearly ascertained; but Scythia probably extended very far into the *Steppe*: and may be conceived to have been bounded by the continuation of the Imaus of Ptolemy, on the north-west. Hence, it will appear, on a reference to Mr. Tooke's Russia, Vol. ii. that Scythia within Imaus, is at present in the possession of the tribes of the KIRGEES, the KIPZAKS, and the KARAKALPAKS.

The *Imaus* of Ptolemy just mentioned, is extended northward, beyond the parallel of 60°; and from it, two different branches, namely, *Ascatancas* and *Anarei*, are described to strike off to the NW; the one from about the parallel of 48°, the other from that of

50°. There appear also in the Map of the Russian empire, two chains of mountains; the most extensive of which runs through the Steppe to the NW, and seems to represent the Imaus in question. These mountains, moreover, inclose the great lake of the Kalmucs (or Palkati Nor), and adjoin, on the east, to mount *Altai*. (See above, pages 177, and 181.)

The description of Ptolemy is less exact; and indeed, it is unlikely that he should have known its line of direction, *critically*; since the information communicated to him, may be supposed to relate rather to the line of progress of the caravans; that is, of the course of trade between *Sogdia* and *Serica*;* than to the bearing of the mountains. The *hither* Scythia, of Ptolemy, then, extended eastward to the neighbourhood of the Palkati Nor, and the mountains of Kashgur, in our geography: and northward, to the great chain of mountains, in the Steppe. But the space allowed by him, between the head of the Jaxartes and mount Imaus (independent of his faulty scale of longitude), is prodigiously exaggerated: and this error has been copied into the modern maps, even those of M. D'Anville, as we have shewn in the Memoir of the Map of Hindoostan.†

Scythia *beyond* Imaus, extended eastward, according to Ptolemy, to the neighbourhood of the *Œchardæ*, which we have recognized in the *Oigurs* or *Yugures* of the present times;‡ southward to mount Emodus, the great ridge of Thibet; and northward to the parallel of 55°. These limits, however, must needs have been very vague; but taken as they are, they include generally, the country usually called *Eastern* Turkestan; comprehending Kashgur, Koten, Acsou, &c. And herein Ptolemy agrees generally with Herodotus; who says, that the *Massagetæ* (who are our *Eastern* Scythians) extended to the neighbourhood of the *Issedones*; since these may unquestionably be taken for the *Oigurs*, or *Œchardæ*. It is proper to remind

* That is, the country between *Kashgur* and *China*; as *Oigur*, *Tangut*, &c.

† See that Memoir, pages 97, and 191, *et seq.*

‡ See above, page 131.

the reader, that the further Scythia, must of course, be situated on the high level mentioned in page 181, *et seq.*: so that the two Scythias occupied very different degrees of level; and, of course, were widely different, in respect of temperature and productions.

Towards the north, Ptolemy places the *Hippophagi*, who seem to have been a nation of *Tartars*, situated near the Palkati Nor. The name, doubtless, will suit the Tartar nations in general. Beyond these again, northward, were the *Abii Scythæ* (of the same name with those so much celebrated by Homer, and other writers), and who may possibly have been the same with the *Ablai*; a tribe of such note, as to give name to that part of the Steppe, which borders on the SW of the river Irtish; though not altogether in the relative position that Ptolemy places them. But it may be conceived, that he knew little in detail, concerning this quarter, beyond the regions of Kashgur and Acsou; that is, *Casia* and *Auxacia*. See his Asia, Tab. vii. and viii.

It appears pretty clearly, that neither the Greeks, nor the Romans, knew many particulars respecting the geography, or division, of the *tribes* belonging to the Scythians; at least, such discriminations are not expressed in their writings. This being the case, we can only treat the subject in a general way: or, according to Mr. Pinkerton, "estimate ancient geography, by ancient opinions."*

In the time of Herodotus, the knowledge of the Greeks respecting Eastern Scythia, even as a general subject, was exceedingly limited; being derived either from the report of the Persians, or from Greeks who had visited Persia. Their sphere of knowledge was enlarged by the expedition of Alexander, and by the communication which was opened with Eastern Asia, in consequence; but still there was no great stock of materials collected, for the improvement, either of the history, or of the geography, of Scythia; which, therefore, continued in a very imperfect state, down to the times of Strabo and

* See his excellent dissertation on the Scythians, or Goths, p. 225.

Pliny.* This is very forcibly expressed by the latter; who says, lib. vi. c. 71, "there is no region in which geographers vary more, than in this (Scythia); which, as I conceive, is occasioned by the infinite number of those nations, that wander to and fro:" a remark that will apply no less to the geographers of the present day. In effect, the inhabitants of this tract, were so often changed, by migrations, southward, and westward, into Persia, &c. that it is no wonder, that authors who wrote in different periods, should describe different tribes in the same place. It would therefore require a history, instead of a geographical dissertation, to note the different tribes that occupied the southern frontier of Scythia, between the times of Herodotus and Ptolemy.

Herodotus, from whom we have our first ideas of the Massagetæ, or Eastern Scythians, places them along the northern bank of the *Jaxartes* (he calls it *Araxes*),† and also extends them eastward, far into the country, since denominated from the Kalmucs. For he places them "beyond the Araxes;" and extends their territories "to the *extreme parts* of *the East*," and "opposite to the *Issedonians*;" Clio, 201. In effect, he knew the subject but imperfectly: for it has been shewn (page 132, 133), that he supposed the Issedones and Massagetæ to occupy very different parallels on the globe: and that the former were very much to the northward of the latter.

The Issedonians, as we learn from Ptolemy, were *divided* between the bordering countries of *Scythia* and *Serica*: that is, there were Issedonians of *Scythia*, and Issedonians of *Serica*: and as the latter are placed, in, or about, the country of the *Œchardæ*, or *Oigurs* (as we have said before), we must regard the tract between Turkestan and China, as the SERICA of Ptolemy; and of course, place the eastern boundary of Scythia *extra Imaum*, at the western border of the Oigur country. This also agrees with a striking circumstance, above related, in the history of the Oigurs; namely, their being a

* During this interval, a commerce appears to have been opened, between the Roman empire, and *Serica*.

† See above, p. 204, *et seq.*

lettered nation, whilst all, or most, of their neighbours, were illiterate barbarians: and where should the *termination* of Scythia be so properly placed, as at the *commencement* of civilization and letters?*

The Massagetæ then, in the opinion of Herodotus, and of the early Greeks, must have constituted the bulk of the *Eastern* Scythians: but he also says, Polym. 64, that SACÆ was a name given, by the Persians, indiscriminately to ALL Scythians; in which he is supported by Pliny, *at least:* of which, more in the sequel.

Arrian, who appears to have written solely from materials furnished by the followers of Alexander (and more particularly by Ptolemy and Aristobulus), who describe the state of things about a century after the time of Herodotus, places the *Massagetæ* along the north of *Sogdia:* agreeing, so far as he goes, with Herodotus. But he also speaks of the *Dahæ*, as a very considerable tribe, seated on,

* It is impossible to ascertain the extent of Ptolemy's knowledge of the *Tartarian* nations, and of the course of trade, between the Roman empire, and those of China and Tartary (that is, of the *Sinæ* and *Seres*). However, as there may be traced, in his geography, a general idea of the countries, in the line between *Sogdiana* and the western frontier of *China;* it may be supposed that this information was collected from the travellers in the caravans, which brought silk and other articles from China, or Serica; or both. This commerce is spoken of by Pliny, lib. vi. c. 17, about half a century before the time of Ptolemy: but Pliny knew so little concerning the nature of silk, that he supposed it to be the produce of a tree; nor does it appear that the silk-worm was accurately known, till the time of Justinian.

The same degree of ignorance seems to have prevailed, respecting the extent of China and Serica. According to Mr. Gibbon, "the Romans did not entertain a suspicion that the SERES or SINÆ possessed an empire, not inferior to their own." The reader will find in the 7th Vol. of his great work, p. 90, *et seq.* a curious history of the introduction of silk into Europe, by Justinian; prefaced with much information respecting that curious and valuable production. In the course of this dissertation, he remarks, that, "in the vain capital of China, the Sogdian caravans were entertained, as the *suppliant embassies* of tributary kingdoms;" which shews, that the customs of China have undergone little change, down to the present moment. The reader may receive full conviction on this head (if he doubted it before), by a perusal of M. Van Braam's account of the late Dutch Embassy to China.

or near the Jaxartes: and, by circumstances, near the lower part of its course. But he omits the *Sacæ*, altogether; which is worthy of remark. They are, however, spoken of, by Curtius, who might have had recourse to materials, that had not been examined by Arrian. Curtius also, mentions the *Dahæ:* but seems to intend those only, who were seated on the Caspian sea, adjoining to Hyrcania; lib. iii. and iv.

Diodorus speaks of the *Massagetæ*, *Sacæ*, and *Arimaspii*, as the principal tribes, or nations of Scythians, beyond the *Tanais* (meaning the *Jaxartes)*; lib. ii. c. 3.

Strabo and Pliny appear to have examined a greater number of authorities, than either Arrian, or Curtius.

Strabo thus speaks of the positions of the Scythian nations, generally: "Certain of the ancient Greek writers, called ALL those nations which lay towards the *north*, SCYTHIANS, and CELTO-SCYTHIANS, without distinction: but, at a still earlier period, they were divided into classes, or tribes; those who dwelt above the Euxine, the Danube, and the Adriatic, were named HYPERBOREANS, SAUROMATÆ, and ARIMASPI; but of those beyond the Caspian sea, some were called SACÆ, others MASSAGETÆ; not being able to speak accurately of them, although they had written a history of the war of CYRUS, with the MASSAGETÆ." Page 507.

After this, he gives in the succeeding pages, a detail of the positions of several of the principal tribes of *Eastern* Scythians.

In page 511, he speaks of the *Massagetæ*, *Dahæ*, and *Sacæ*, as the *principal* Scythian tribes: but says, that there are other tribes also, who have individual names, but pass under the general denomination of Scythians: all of which (says he) are *true Nomades*. The *Dahæ*, he says, begin at the Caspian sea;* the *Massagetæ* and *Sacæ* lie more to the east. Here we find an agreement between Strabo and Curtius, respecting the *Dahæ:* and as the *Massagetæ*

* He explains in the same pages, and also in 508, that these *Dahæ* were of a particular tribe named *Parni*, or *Aparni*.

and *Sacæ* lie more to the east, we are to look for them, at, or near the Jaxartes, of course. Strabo moreover tells us, p. 514, that the Jaxartes separated the *Sogdii* and *Sacæ*, in like manner as the Oxus did the *Sogdii* and *Bactriani*.

Again, page 512, he describes the seats of the *Massagetæ* to be towards the lower part of the course of the *Jaxartes*, and its lakes, (admitting, as we can hardly do less, that the river which he as well as Herodotus, Diodorus, and Justin, calls *Araxes*, is meant for the former.) In page 513, he also says that the *Chorasmii* ARE *Massagetæ*, and *Sacæ*. Whether these tribes possessed Chorasmia at the date of Alexander's expedition, we have no means of knowing; but as Strabo says, page 511, that the *Pasiani*, *Tochari*, and *Sacæ*, dispossessed the Macedonians of the empire of *Bactria*, it is not improbable that the progress of the Massagetæ in Chorasmia, was also subsequent to the time of Alexander. Not but that such migrations from Scythia, must have happened in earlier times; only that the Scythians might have been so long established, as to pass with the Greeks for aborigines.

Justin informs us, lib. ii. c. 1, and 3, that the kingdoms of *Bactria* and *Parthia* were founded by the Scythians; which, as he makes no distinction of tribes, agrees with Strabo.* And, in fact, there is little doubt that the Scythians have, in the course of ages, over-run all the southern and western countries of Asia. We may trace the Turks, from their original country, *Turkestan* (a part of Scythia, inhabited by the Massagetæ), to the shores of the Hellespont, in an age subsequent to Strabo. The incursions of Monguls under Jinghis Khan and Tamerlane, into Persia and Lower Asia, are to be considered as Scythian invasions: and Persia is at the present moment over-run with *modern* Scythians, who are actually in a *Nomadic* state, in that country.

Pliny, vi. 17, says, "Beyond *Sogdiana* are the *Scythian nations*. The

* We learn from Strabo, 515, that *Arsaces*, who conquered Parthia, was a Scythian, and of the tribe of *Parni-Dahæ*.

Persians were accustomed to call these in general, SACÆ, from a *tribe* which bordered on them.* And, on the other hand, the Scythians called the Persians, *Chorsari.*"† He speaks moreover of the Massagetæ, Dahæ, and various other Scythian tribes.

Pliny had a comprehensive knowledge of geography: and therefore we may place some dependance on his statements; and these express generally, that the subject was little understood, by reason of the frequent migrations of the tribes, in the quarter towards the Jaxartes and Imaus; as also, that *Sacæ* was a general term in Persia for ALL Scythians, although there were various tribes of them: in which, as has been already shewn, he agrees with Herodotus.

Ptolemy places a great number of tribes along the Jaxartes and mount Imaus; amongst whom are found the Massagetæ, near the fountains of the Jaxartes: and the Sacæ, a great nation, *beyond* the fountains both of the *Jaxartes* and *Oxus;* but on *this* side of *Imaus*, and *Casia* (Kashgur). A third tribe occupies generally the whole northern bank of the *Jaxartes*, opposite to *Sogdiana;* and this tribe is named *Jaxartæ*, of which we suppose the *Sartes* ‡ to be the remains. The *Dahæ* of Ptolemy, are placed in the country to the NE of *Hyrcania*, and adjacent to the Caspian sea; in effect, *Dahestan;* agreeing with Strabo: and are out of all question, with respect to Scythia: although they, no doubt, drew their origin from thence.

It appears that Justin understood so imperfectly, the geography of Scythia at large, that he supposed it to be wholly comprized in the country adjacent to the Euxine and Palus Mæotis: this, at least, his descriptions (lib. ii. c. 1. and 2.) shew: he says, that the Scythians dwelt along the rivers that fall into the Mæotis—and, that Scythia extended in length towards the east; and had Pontus on

* Doubtless the *Sakita* (or *Saqita*, in the Maronite edition) of Edrisi, in page 141: said to be situated in *Turkestan*, adjoining to *Kilan*, *Vachan*, &c. provinces of *Balk*, or *Bactriana;* and in the quarter of *Saganian*.

† Probably the same word with the modern *Kozar* or *Khajar*.

‡ This will be further explained, in the sequel.

one side; on the others, the *Riphæan* mountains, and the river Phasis. Of course, he knew *Western* Scythia alone (the Scythia of our Author); and referred all the Scythian history to that quarter. He supposed the warfare of Alexander's army with the Scythians,* to have been in the quarter of the Euxine (lib. xii. c. 2.); he also describes the passing of the *Araxes* (Jaxartes) by Cyrus, to attack Tomyris (lib. ii. c. 8.); but it is uncertain what his idea of its position, was; it is not impossible, that he took it for the Araxes of Armenia.

From the above authorities, taken generally, it appears, that the ancients reckoned *three great tribes* of Scythians towards the Jaxartes: namely, the *Massagetæ*, *Sacæ*, and *Dahæ;* besides a great many lesser tribes; (or possibly, only of *lesser note*, from their being farther removed from the seat of warfare with the Greeks.) They might, indeed, have been subdivisions of the greater tribes; a state of things existing at the present day. In the early times of Herodotus, it appears that only the *Sacæ* and *Massagetæ* were known to the Greeks; and that by report only: and Herodotus, who is supported in the assertion by Pliny, says, that *Sacæ*, although it was the name of a particular tribe, bordering on the *Persians*, yet that it was *by them*, extended to ALL the Scythians. Strabo, in effect, says the same, page 514, by giving the Jaxartes as the general boundary between the *Sogdians* and the *Sacæ;* for, as in the other descriptions, the *Massagetæ* were said to be the people who bordered on the *north* of *Sogdiana*, and consequently on the Jaxartes; the *Sacæ* of Strabo, must stand in the place of the *Massagetæ* of others. To this must be added, that Arrian, who made use of the materials furnished by Ptolemy and Aristobulus, never mentions the *Sacæ* at all: a plain proof that these journalists had not made use of the term; although they fought with those very Scythians, who are called *Sacæ* by Strabo and Pliny; but *Massagetæ*, by Arrian and Herodotus.

* He calls them *Scythians* simply: not *Massagetæ*, like Herodotus.

This therefore can no otherwise be accounted for, than by supposing (as we have said before) that *Massagetæ* was a term invented and applied by the Greeks to the Eastern GETÆ, or Scythians, beyond the Caspian and Jaxartes; in contradistinction to the Getæ or Scythians of the Euxine; who were the first and most familiarly known to the Greeks.* We must then regard the term SACÆ, as that in use, amongst the Persians, to denote the *Eastern Scythians*: and MASSAGETÆ, as of the same import amongst the Greeks. And indeed, in perusing Arrian's history of Alexander's campaigns in Sogdia, we can understand no other than that Massagetæ was a general term for all the Scythians, with whom Alexander fought. And, it is not improbable, that the name Massagetæ, being familiarized to the Greeks by their historians *at home*, was applied by them, on their arrival in Sogdia, without any farther inquiry, concerning the justness of the application. This may also account for the seeming contradictions, in the ancient geographers, respecting the seats of the different tribes, when their names came to be unfolded, as the progress of geographical knowledge increased, under the Macedonian empire in Asia: for instance, Strabo places the Massagetæ very *low down* the Jaxartes; Ptolemy very *high up* the same river; whilst Herodotus and Arrian, extend them along it, generally, throughout its whole course. Again, Strabo and Pliny place the *Sacæ* in the room of these *Massagetæ* of Herodotus and Arrian. To what is this owing, but that, in the first instance, MASSAGETÆ was regarded by some, as a general name; and by others, as a particular one: and in the second place, that the names SACÆ

† The like has happened in a variety of instances: the country *beyond* India, was named the *further* India, because a collective name was wanted for it; and it was accordingly denominated from its relative position to the other: although it might as well have been named the *hither China*. The *continents* of Asia and Africa were also denominated from *provinces* of those continents; that is, Asia at Large, from *Asia Minor*: Africa, from the Carthaginian province so named.

and MASSAGETÆ were used by two different nations, respectively, to denote one and the same people?

It may be owing to the same cause, that the Chorasmians were reckoned both *Sacæ* and *Massagetæ*, as we learn from Strabo.

Geographers seem to have been overcome by the number of names of Scythian tribes; but many, or perhaps most, of these, were no more than the names of chiefs; of which we have many examples in Western Asia.* We shall therefore only attempt to fix the local positions of the principal tribes, amongst those known to the Greeks; that is, the *Massagetæ*, *Sacæ*, *Dahæ*, *Jaxartæ*, *Abii*, *Pasiani*, and *Tochari*. And this we hope to accomplish, by drawing into one point of view, the different authorities found in ancient history: in the course of which, some repetitions will occur, that were in the nature of things, unavoidable.

I. MASSAGETÆ.

Herodotus. A great and powerful nation, whose territories extend beyond the river Araxes (Jaxartes) to the extreme parts of the East. They are opposite to the Issedonians; Clio, 201. The Caspian (or rather Aral?) sea is bounded on the east, by a plain of prodigious extent, a considerable part of which, forms the country of the *Massagetæ*; ib. 204. Cyrus advanced beyond the Araxes (Jaxartes) into the land of the *Massagetæ*; 209. They subsist upon cattle, and upon fish, which the *Araxes* abundantly supplies; 216.

Strabo. The *Massagetæ* border on the *Araxes* (Jaxartes) p. 512, and 513. The *Massagetæ* and *Sacæ* are situated to the eastward of the *Dahæ*, who *border* on the *Caspian* sea; 511. The *Massagetæ* were adjacent to the *Bactrians*, towards the *Oxus*: and the inhabitants of *Chorasmia* were partly *Massagetæ*; 513.

* The reader will find in page 140, a quotation from Mr. Tooke, illustrative of this matter.

Diodorus. The *Massagetæ* are beyond the *Tanais* (Jaxartes); lib. ii. c. 3.

Arrian. The *Massagetæ* are situated to the *north* of Sogdia; lib. iv. c. 17.

Ptolemy. *Massagetæ*, a tribe towards the head of the *Jaxartes;* Asia, vii.

Justin makes no distinction between the different tribes of Scythians; in lib. i. and ii.

Thus, the Massagetæ, if taken according to the idea of Herodotus, as the whole nation of *Eastern* Scythians, must have inhabited the tract between the east side of the Caspian sea, and the territories of the Oigurs (since *these* can only be taken for the *Issedonians);* that is, they inhabited Scythia, both on *this* side, and *beyond*, Imaus. But this appears too great a range for them, according to the ideas of subsequent geographers, who were better informed: and it appears more probable, that the *proper* country of the Massagetæ was confined between the Caspian sea, and Imaus, on the east and west; and the Jaxartes, on the south.* So that it may be taken generally for Scythia *within* Imaus; and may have comprehended the vast plains situated beyond the Caspian and Jaxartes; that is, the Desht Kipzak, the Western Turkestan, and the proper country of *Gete;* which latter, from Sherefeddin's history of Timur, we should conclude to be situated *wholly* within Imaus.† Thus they must have occupied the seats of the Kirgees tribes in the present times.

Herodotus spoke of them as *one* nation; but Alexander, about a century and half after the invasion of the Massagetæ, by Cyrus, found the Scythians at the Jaxartes, divided into several tribes. Doubtless, the fact was, that the former had only *heard* of them

* At the date of Alexander's expedition, there were some tracts on the south of the Jaxartes, in possession of the Scythians.

† One cannot reasonably doubt, that this name *Gete*, has remained in that country from very early times. See Sherefeddin's Timur, lib. i. and ii.

collectively; but Alexander, having an *intercourse* with them, discovered that they were divided into different nations. All which was perfectly natural.

II. Sacæ.

Herodotus. "A Scythian nation—and though really the *Amyrgii* of Scythia, were called *Sacæ*, the name given by the Persians, indiscriminately to all Scythians." Polym. 64.

Pliny. A tribe which bordered on the Persian empire, and from whence the whole nation of the (Eastern) Scythians was denominated; lib. vi. c. 17. This seems to have been the *Sakita* of Edrisi.

Strabo. The Jaxartes separates the *Sacæ* from the *Sogdii;* page 514; in like manner as the Oxus separates the Sogdii from the Bactriani; and again, p. 517.

Diodorus. One of the principal tribes of Scythians, beyond the Tanais—(Jaxartes); lib. ii. c. 3.

Curtius. The Sacæ sent ambassadors to Alexander, on occasion of his defeating the Scythians at the Jaxartes; lib. vii. c. 9. Alexander, afterwards invaded the country of the *Sacæ;* lib. viii. c. 4. Curtius gives no intimation concerning its position; but it is inferred from other notices.

Ptolemy. A great people, situated between *Casia*, *Bylta*, and the head of the Jaxartes. *Bylta*, is the modern *Baltistan;* or Little Thibet; Asia, Tab. vii.

It has been said (in page 215), that there is a tract named *Sackila* in Edrisi. This must be looked for, between the upper parts of the courses of the Jihon, and Sirr (Oxus and Jaxartes), and the Indus; and adjoining to the mountains of Kashgur: agreeing perfectly with the ideas derived from the ancients, and also with the expedition of Alexander, amongst the *Sacæ;* who seem therefore to have possessed the countries of Kotlan and Saganian, &c. The tract assigned them by Ptolemy, answers to this; it being situated between *Bactria*, *Sogdia*, and the *hither Scythia.* Ammianus Marcellinus speaks of a

city of *Saga*, in this quarter, which name has probably a reference to the *Sacæ*, and may be that of *Saganian* itself; which is situated between the Oxus and Jaxartes.*

As the *Sacæ* are said to have extended their *name* to the Scythians in general, it must naturally be supposed, that they were a formidable and populous tribe; or rather nation; and that a part of them only, had established themselves within the dominions of Persia. That they were good warriors, is proved by the history of the expedition of Xerxes. Cyrus is even said, Clio, 153, "to have prepared for serious resistance from them:" and the frequent recurrence of the root *Saca*, in so many countries, shews that their conquests and establishments have been extensive. Such is *Sacastana* by *Sigistan*; *Saganian*; *Sacacene*, and *Sacapene*, in the quarter of Armenia. But it may be supposed, that these settlements were made posterior to the Macedonian conquest; as they had a share in the overthrow of their empire in *Bactria*, as we have shewn from Strabo, in page 214.†

* Ammianus describes the seats of the *Sacæ* to be under the mountains *Ascanimia* and *Comedus*; and joining to *Drepsa*, which may be taken for *Anderab*, a province of Balk, or Bactria; lib. xxiii. The mountains *Ascatancas* and *Comedi*, appear also in Ptolemy, in the same situation. (Asia, vii.)

The road of the caravans led by, or through, the *Sacæ*; there was a *town* called the *Stone Tower* (perhaps a *military post* on a scarped rock), by which the caravans passed; noted both by Ammianus and Ptolemy. There was also near it, a *station* or *emporium* frequented by the merchants, who trafficked to Serica; and which seems to have been at the passage of the mountains, from Balk into Kashgur. This appears to have been the route followed by MARCO POLO, in 1272; for he went from Badakshan, by Belur, to Kashgur; crossing a vast elevated plain, named *Pamer*, which answers to the *Comedi*, and *Sacæ* of Ptolemy; and the *Sakita* of Edrisi.

† Strabo, p. 511, traces the Sacæ into *Bactria*, *Cimmeria*, *Eastern Armenia*, and even *Cappadocia*; where they were destroyed by the Persians. But they gave their name to the tract, through which the Cyrus and Araxes flow, between *Georgia* and the Caspian sea; that is, the beautiful vallies of Karabaug and Ganja. The name *Kosaki* still remains in a part of the tract. It is not improbable, that the *Assacani* of Alexander, had their name from the same origin: and it is certain that their country, *Sowhad*, borders on the Sacæ of Ptolemy.

It is possible, that the general denomination of *Sacæ*, was of the same import, perhaps even a part of, the very same name, with the *Kossaki* of modern times: that is, *wanderers*, *freebooters*, or *banditti*.*

Other particulars relating to the Sacæ, and especially those which were subjected to Persia, and who served in the army of Xerxes, will be given in the account of the Satrapies.

III. Dahæ, *or* Daæ.

The Dahæ are mentioned by Strabo, Pliny, Curtius, Justin, Arrian, and Ptolemy. Their name occurs very often in the history of Alexander's expeditions to Sogdia, &c.; and they appear to have been a numerous tribe. They were leagued with the *Massagetæ*; and from circumstances, they appear to have been seated chiefly, at the *lower* part of the Jaxartes: perhaps on both sides of it. Curtius says, that the *Chorasmians* lay between the *Dahæ* and the *Massagetæ*: so that he must mean, in this place, the *Dahæ* of the present *Dahestan*; who agree to the *Aparni* or *Parni* of Strabo, a tribe of *Dahæ* situated at the Caspian:† but the *Dahæ* amongst whom Spitamenes took refuge, seem evidently to have been situated in the neighbourhood of *Sogdia*, and of the *Massagetæ*.

In order therefore to allow any degree of consistency to the ancient accounts, there must have been *two* countries in which the *Dahæ* were *settled*, at the date of Alexander's expedition: one, at

* Captain Kirkpatrick says, "I think I recognize the *Cossacks*, in the Oriental term or appellation of *Cozâck*, or *Cuzzâck*, which is applied generally to any *banditti* or freebooters: but which I have also met with, in a restrained sense, and applied to a particular tribe, or nation; though I cannot at present recollect the passage." (Kirk. MSS. Vol. v. p. 44.) Mr. Tooke also remarks, Russia, Vol. ii. p. 242, that the term *Kasack* is generally taken in a bad sense.

Capt. Kirkpatrick mentions a tribe of the name of Allemans, with whom some of the Mogul princes of India warred, beyond the *Oxus*. We mention this, as an additional proof of the progress of the Scythian names westward, whilst they also keep their ground in the East.

† The *Dahæ* of Justin, lib. xli. c. 1, were also near *Hyrcania* and *Aria*.

the Jaxartes, and at the east of the Aral (taken for a part of the Caspian); the other farther down the Caspian, and adjoining to *Hyrcania*. In proof of the former, we have, 1st, the circumstances of the war of Alexander with the Scythians, in Arrian, and in Curtius. 2d, Arrian mentions the *Dahæ*, at, and beyond the Tanais; lib. iii. 28. Strabo, mentions the *Dahæ beyond* the Tanais, as well as at the Caspian, p. 511: and according to him (same page), it would appear, that the original seat of the *Dahæ*, was at, or beyond, the *Tanais* (meaning the *Jaxartes*).

That the *Dahæ* were settled at the Caspian, to the north of *Hyrcania*, we have abundant proof: and the present name of that very tract, DAHESTAN (or country of the *Dahæ*), adjoining on the north, to *Korkan*, or *Hyrcania*, is no contemptible one. Strabo says, that the *Dahæ* lay on the *left* of the Caspian sea, in coming from the *north*; p. 508. He also, p. 508, and 511, speaks of a tribe of *Dahæ* named *Parni*, or *Aparni*, who lived in the tract adjoining to *Hyrcania*, and had a desert to the northward of them; clearly referring to *Dahestan*. Again, 511, he speaks of the Dahæ, as the most western tribe of Scythians; and bordering on the Caspian sea: and in 515, of the Parni by the river *Ochus*. It is certain, that he supposed the Parni Dahæ in this place, to have come from the Palus Mæotis: but it is more likely that Strabo should have been guilty of an error, in the supposed geography of the Mæotis, than that the Dahæ should have made the tour of the Caspian sea, from their seat at the Jaxartes. His ignorance of the particulars of the Caspian sea, led him also into the error of placing the Dahæ so high up, on the coast of that sea.

Ptolemy has both *Dahæ* and *Parni*, on the NE of *Hyrcania*, agreeing with Strabo. (Asia, vii.) He also places *Massagetæ* and *Derbicæ*, nearly in the same situation: that is, along the river, which in fact represents the *Ochus*, but is there named *Margus*: and *vice versa*, the *Margus* is named *Ochus*: (there being in his geography, a complete transposition of these two rivers, as well as

of some places on their banks.) The *Massagetæ* just mentioned, may be meant for those spoken of by Strabo, in *Chorasmia*.

It may be remarked, that Arrian never once mentions the *Dahæ*, during the *warfare* of Alexander, amongst the Eastern Scythians: but constantly calls these Scythians, *Massagetæ*, as a general term; although he had *previously* mentioned the tribe of *Dahæ*, at, or beyond, the Jaxartes. But Curtius, in describing the same events, speaks both of *Dahæ* and *Massagetæ;* as in the affair of *Maracanda*, and in the last expedition of *Spitamenes;* so that, in the idea of Arrian, the tribe of *Dahæ* should be included in the greater tribe, or nation of the *Massagetæ:* which, we shall once more repeat, seems to have included (amongst the early Greeks,) the whole body of *Eastern* Scythians collectively.*

It is probable that the *Daritæ* of Herodotus, in Thalia, 92, are the Dahæ, at the Caspian sea. In Clio, 125, the *Dai*, a pastoral tribe of Persia *proper*, is mentioned. Can these be the *Dahæ?* More will be said of these, in the account of the Satrapies.

IV. JAXARTÆ.

Ptolemy mentions the *Jaxartæ:* placing them along the northern bank of the *Jaxartes*, throughout the *lower half* of its course. These, consequently, occupy the place of the *Massagetæ* of Herodotus, and Arrian; and of the *Sacæ* of Strabo. Ptolemy *may*, possibly, have named them arbitrarily: but as there is a remnant of a tribe named SARTES, now existing between the *Oxus* and *Jaxartes*, and which are reported to be the remains of the ancient inhabitants of the country, it is possible that this was one of the tribes of the *Massagetæ* or *Sacæ;* which, as we have seen, were no more than general names, bestowed by the Greeks and Persians; whilst *Jaxartæ* may have been the true name, in the *country itself:* and, very probably, gave

* It has been remarked on a former occasion, p. 213, that Curtius appears to have made use of certain materials that Arrian had not seen. Here seems to be another instance of it.

name to the river *Jaxartes*, at that period; of which SIRR, and SIRT, which are in use at present, may be the remains. Ammianus speaks of the *Jaxartæ*, as a tribe; and of good account, in lib. xxiii.

The SARTES are mentioned by Abulgazi Kan: and also by Mr. Tooke (Russia, Vol. ii. p. 128, 150, 152.), under the name of SARTI.

As we have supposed the name of the *Jaxartes* to be derived from this tribe; so we suspect that the river *Oxus* had its name from the ancient tribe of OUTZI. Mr. Tooke says, (same volume, p. 130.) "The *Bokharians* (these inhabit the banks of the *Oxus*, now called *Jihon*;) assert that they are the *unmixed* descendants of the *Outzians*; and the real *Turkomans*." Now, there is a town and district at the side of the Indus, (where the waters of the Panjab join it,) named OUTCH, or UTCH; and which is evidently the tract, whose inhabitants were by the Greeks, named OXYDRACÆ. See Arrian, lib. vi.; and Ayin Acbaree, Vol. ii. p. 136.

Ptolemy not only places the city, and lake of the *Oxians*, in Sogdiana, the latter of which answers to the lake near Bokhara, but the OXYDRACÆ also; (Asia, Tab. vii.) It may be supposed that both of these tribes had anciently the same name of *Outzi*, or *Outchi*: and which the one has preserved, but the other lost, as it respects common use.

V. ABII.

This appears to have been a respectable tribe, both in point of national character, and of numbers. Ptolemy places them far to the NE of the *Jaxartes*; and, as we have said in p. 210, in the position that we should assign to the *Steppe*, or desert of *Ablai*; on the SW bank of the upper part of the river Irtish.

Some of the historians of Alexander mention the *Abii*, as having sent ambassadors to him, during his stay at the Jaxartes.* The people of Ablai, appear to have been too far distant from the Jaxartes (that is five weeks' journey, or more), to be the people

* Arrian, lib. iv.—Curtius, vii. c. 6.

intended; but then, the *European* Scythians, by which those of *Kipzak* appear to be meant, also came. The Abii are celebrated for their justice and forbearance; never entering into wars, but when compelled. This is a trait of the *Hyperborean* character also; (see page 152;) and the Ablai dwelt beyond the chain of mountains which seems intended for the boundary of the Hyperboreans.

It is a curious circumstance, and well worth notice, that the *Abian* Scythians were known, and celebrated by Homer, as the best and justest people on earth: and could it be supposed that he intended the same *Abians*, with those seen by Alexander, it would prove that the Greeks had a very early knowledge of the Eastern Scythians.* But the Greeks carried with them into Asia, and sometimes applied, the names of nations and tribes found in their historians, or poets, without much regard to accuracy; and we rather conceive, that Homer meant some tribe of the Western Scythians; as also, that the Greeks applied to a tribe of Eastern Scythians, this name, which might have had some affinity in sound, with the other.

VI. Pasiani, Aspasiacæ, *or* Pasicæ.

Ptolemy places the *Pasicæ* on the north of the Oxus, *below* Sogdiana; but *above* the mountains of the Oxii: or in a position answering to *that*, in modern geography, between Bokhara and Khowarezm. This tribe answers in point of position, to the *Aspasians* of Polybius, who are placed between the Oxus and Jaxartes; and who occasionally crossed the former, in order to invade *Hyrcania*, &c.; of which passage, a curious description is given by Polybius, in lib. x. Exc. 8. These may also be taken for the *Pasiani* of Strabo, 511; who, with the *Sacæ* and *Tochari* conquered Bactria from the Greeks: as well as for the *Aspasiacæ* of the same author, in p. 513. We can find no traces of this name, in modern geography, except in that quarter of Armenia, towards the river *Aras*, or *Araxes*.

* Iliad, xiii. v. 6. See also Strabo, lib. vii. p. 296, *et seq.* and 311; and Ammian. Marc. lib. xxiii.

VII. TOCHARI, *or* TACHORI.

The place of this tribe is given in Ptolemy, Asia, vii. at the south of the Jaxartes (perhaps in, or near, Fergana): and the *Thocari*, perhaps meant for a part of the same tribe, on the south of the Oxus, *below Bactria*. We have just seen that the *Tochari* was one of the tribes who conquered Bactria; and at the present day, the country on the east of Balk is called *Tocharestan*. Ptolemy should therefore have placed his Thocari *higher* up the Oxus. The Jaxartes may have been the original seat of this tribe.

It is worthy of remark, that two tribes of the names of *Taochari* and *Pasiani* are *now* seated near the Araxes, in Armenia: the first answering to the *Taochi* of Xenophon; the other probably giving its name to the Araxes; as Xenophon calls it *Phasis*: so that they seem to have penetrated southward, on both sides of the Caspian.

We shall close the observations on the Eastern Scythians, with a few remarks on the expedition of CYRUS against them, under the name of MASSAGETÆ.

The history of this transaction is very briefly related, both in Herodotus and Justin: so that little can be collected concerning his military progress. The former barely states, that he threw a bridge over the river, and advanced about a day's march beyond it, into Scythia; Clio, 206, 211; when the stratagem of alluring the Scythians to feasting and drunkenness, was practised, by which about one-third of the Scythian army was destroyed. See also Justin, lib. 1. c. 8.*

After this, Herodotus says, Tomyris collected all her remaining forces, and gave battle to Cyrus: a battle the most obstinately

* Strabo, who likewise mentions the warfare of Cyrus, with the *Massagetæ*, refers this story to his war with the *Sacæ*; page 512.

fought, of any on record: and which terminated in the destruction of Cyrus himself, and the greater part of his army. Clio, 214.

Justin is somewhat more circumstantial. He says that Tomyris artfully drew Cyrus, into the *straits* of the *mountains*, where ambuscades being laid, the king and his whole army were slain. Lib. i. c. 8.

If it be supposed that Cyrus advanced by the usual road from *Sogdiana* into *Scythia*; that is, from *Mawuralnahr** into *Turkestan*, he would naturally have crossed the Jaxartes (Sirr) at *Kojend*, the great pass into Turkestan; where, it appears clearly, Alexander crossed it, to attack the Scythians; and in which neighbourhood, he found the city or cities that had been built by *Cyrus*; one of which bears the name of *Cyreschata*, or *Cyropolis*, in Ptolemy.

The narrative of Justin is rendered probable, by the circumstances of the geography: for there are mountainous chains, which approach very close to the farther bank of the Sirr; although, according to Herodotus, we should expect one continuous plain throughout the country of the Massagetæ. One of these chains commences directly opposite to the pass of Kojend, and extends far to the north, into Turkestan; (Kirk. MSS.) another commences opposite to Otrar (a famous pass over the same river towards Kipzak, and much nearer to the lake Aral), and contains some *strong posts*; as we learn from Sherefeddin's History of Timur. But the *former* is the most likely to have been the scene of the defeat and death of Cyrus.

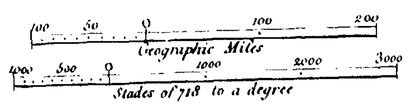
* Literally, *the country beyond the river:* that is, the *Jihon*, or *Oxus*. Thus the Persians and Arabians, are accustomed to express the country of Samarkand, or *Sogdiana*.


Moghilev
Epiphane
Melanchlæni
Thyssagetæ
Basskiria
Mountains
Step
Prypets R.
Nouogorod
Woronez
Petrous
Samara
Buzuluzk
Androphagi
Sem R.
Tchernigrod
Bielgorod
S. Oskol
Khopesh
Budini
Gelonæi
Torgamitæ
Riphæan
Razepnaia
Uralsk
Orskaia
Namzyn
Thomsons
Lusuc
Kiow
Pereislaw
Chaykof
Poltawa
Korotavak
Darius Forts
Carus
Irgis
Irtis R.
Kamyzin
Karzinskoi
Jaik R.
Jaik or Ural R.
Akaikal or Turgai L.
Turgai R.
Sepulchres of Abulkair Rampart
Lokman
Scythia
Scythia Inter Imaum
Mirgeses
Seceding Royal Scythians
Lesser Horde
Kirgeses
Kalmucs
Deshti Kipzak
Desert
Volga R.
Janystaw
Carpathian Mts.
Halics
Mohilew
Choczim
Pass
Bracław
Borysthenes
Kremenschuk
Isum
Slavensk
Donetz R.
Donez
Crolubenska
Tzaritzyn
Tarepta
Tiesse R.
Pruth R.
Dniester R.
Bog R.
Catherinoslaw
Alexandrowskaia
Taganrok
Tanais
Sarmatæ
Tanais or Don R.
Wardein
Cassovia
Jassy
Bender
Otchakow
Olbia
Cherson
Petrowskaia
Asoph
Akerman
Adjibei
Agathyrsi
Hungary
Temeswar
Maris R.
Krimstadt
Peterwardein
Semlin
Belgrade
Ister or Danube R.
Widin
Ismael
Danube R.
Dristina
Nicopoli
Taphræ
P. Mæotis
Tanaica
Janikale
Kerch
Kopil
Donskaia
Krasnaia Astrakan
Astrakan
Caspian Sea
Kulgla
Karagan
Manguslave
Shamo
Aral
Tevel
High
Sea
Jand R.
Otrar
Sourkend
Sarts
Karakalpaks
Ragusa
Adriatic
Dyrrachium
Brundusium
Hydruntum
Nessa
Sophia
Hebrus R.
Philippopolis
Varna
Burgas
Dardania
Rhodope
Macedonia
Greshonia
Thessalonica
Adrianople
Hebrus R.
Salmydessus
Bosphorus Thracius
Byzantium
Constantinople
Propontis
Marmandinus
Heraclea
Pontica
Paphlagonia
Amastris
Sinope
Cimmerian Bosp.
Griu Metopon
Sindica
Sindjik
Hypanis R.
Taurica Chersonesus
Carambis
Cytorus
Amisus
Lycus R.
Thermodon R.
Mosynœci
Tibarani
Colchis
Phasis R.
Gori
Tiflis
Akalzike
Derbend
Alazon
Circassia
Iberia
Caucasus M.
Tarkai
Terki
Kislar
Mozdok
Terek R.
Catherine
Madjar
S. George
Iskander Bay
Oxus R. of Bruce, 1723.
Ancient course of the Oxus and until A.D. 1640.
Karabogas Gulf
Khieva
Hazarasp
Chorasmia
Great
Oxus R.
Durhun
Makan
Bavard
Kelat
Nesa
Margiana
Antiochia
Aparytæ
Sinus Hyrcanius
Caspian Sea
Hyrcania
Dahestan
Darita
Astrabad
Jurjan R.
Asterabad
Kabrid
Kabetan
Naisabour
Sabari
Jam
Sirvc
Candar
Tabarestan
Media
Rages
Turone
Turshiz
Zauxan
Susia
Aria
Khaur
Sorra
Palus
Farah
Ecbatana
Dainawar
Persepolis
Dizabad
Kermanshah
Kelwangend
Sava
Hamadan
Kashan
Kerbadkan
Tabs
Masina
Killi
Corra
Karcara
Kiasion
Artavi
Isatichæ
Kaiderm
Yarand
Hindmend
Serbisha
Yezdecus
Ispahan
Orthocorybantes
Susiana
Elymais
Cossea
Pactyes
Babylon
Messid Ali
Hillah
Hamard
Kadder
Hit or Is
Euphrates R.
Tigris R.
Lambloun
Korna
Ahwaz
Susa
Tarkai
Derbend
Tiflis
Gori
Ganja
Bardaa
Nakchivan
Araxes R.
Araxata
Armenia
Armenia Major
Armenia Minor
Cappadocia
Galatia
Phrygia Magna
Phrygia Parorios
Lycaonia
Isauria
Pisidia
Pamphylia
Cilicia
Mysia
Bithynia
Troas
Lesbos
Tenedos
Colonæ
Ancyra
Amorium
Gordium
Serrhi
Dorylæum
Akshehr
Iconium
Cretopolis
Tyana
Archelais
Tavium
Sebaste
Tarsus
Adana
Mopsuestia
Anazarbus
Castabala
Cyrrhestica
Comagena
Zeugma
Samosata
Edessa
Charra
Carrhæ
Nisibis
Diarbekir
Tigranocerta
Bitlis
Mush
Van
Arsamosata
Arsamia
Niphates
Tebriz
Ardebil
Chalcal
Mianeh
Sultanieh
Cyropolis
Mesopotamia
Assyria
Arbela
Ninive
Sinjar
Hatra
Thapsacus
Circesium
Palmyra
Tadmor
Palmyrena
Euphrates R.
Chaboras R.
Aboras R.
Mygdonius R.
Nisibis
Ras
Orrhoe
Edessa
Batnæ
Hierapolis
Bambyce
Antioch
Seleucia
Laodicea
Tripoli
Berytus
Sidon
Tyre
Acca
Damascus
Jerusalem or Cadytis
Gaza
Pelusium
Mouths of the Nile
Nile R.
Memphis
Cairo
Heliopolis
Arsinoe
Naucratis
Thmuatis
Rhinocorura
Casium
Pelusiac
Cyrene
Cyrenaica
Barca
Berenice
Ammonis
Catabathmus
Parætonium
Apis
Libya
Libyan Desert
Arabian Desert
Arabia
Arabian Sea
Mediterranean Sea
Ægean Sea
Hellespont
Propontis
Cyprus
Salamis
Paphos
Citium
Amathus
Lapithus
Cerynia
Ledra
Chelidonia
Sarpedon
Hermæan Prom.
Carambis
Amastris
Sinope
Cytorus
Amisus
Lycus R.
Thermodon R.
Mosynœci
Tibarani
Colchis
Phasis R.
Gori
Tiflis
Akalzike
Derbend
Alazon
Circassia
Iberia
Caucasus M.
Tarkai
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Antiochia
Aparytæ
Sinus Hyrcanius
Caspian Sea
Hyrcania
Dahestan
Darita
Astrabad
Jurjan R.
Asterabad
Kabrid
Kabetan
Naisabour
Sabari
Jam
Sirvc
Candar
Tabarestan
Media
Rages
Turone
Turshiz
Zauxan
Susia
Aria
Khaur
Sorra
Palus
Farah
Ecbatana
Dainawar
Persepolis
Dizabad
Kermanshah
Kelwangend
Sava
Hamadan
Kashan
Kerbadkan
Tabs
Masina
Killi
Corra
Karcara
Kiasion
Artavi
Isatichæ
Kaiderm
Yarand
Hindmend
Serbisha
Yezdecus
Ispahan
Orthocorybantes
Susiana
Elymais
Cossea
Pactyes
Babylon
Messid Ali
Hillah
Hamard
Kadder
Hit or Is
Euphrates R.
Tigris R.
Lambloun
Korna
Ahwaz
Susa
Tarkai
Derbend
Tiflis
Gori
Ganja
Bardaa
Nakchivan
Araxes R.
Araxata
Armenia
Armenia Major
Armenia Minor
Cappadocia
Galatia
Phrygia Magna
Phrygia Parorios
Lycaonia
Isauria
Pisidia
Pamphylia
Cilicia
Mysia
Bithynia
Troas
Lesbos
Tenedos
Colonæ
Ancyra
Amorium
Gordium
Serrhi
Dorylæum
Akshehr
Iconium
Cretopolis
Tyana
Archelais
Tavium
Sebaste
Tarsus
Adana
Mopsuestia
Anazarbus
Castabala
Cyrrhestica
Comagena
Zeugma
Samosata
Edessa
Charra
Carrhæ
Nisibis
Diarbekir
Tigranocerta
Bitlis
Mush
Van
Arsamosata
Arsamia
Niphates
Tebriz
Ardebil
Chalcal
Mianeh
Sultanieh
Cyropolis
Mesopotamia
Assyria
Arbela
Ninive
Sinjar
Hatra
Thapsacus
Circesium
Palmyra
Tadmor
Palmyrena
Euphrates R.
Chaboras R.
Aboras R.
Mygdonius R.
Nisibis
Ras
Orrhoe
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Hierapolis
Bambyce
Antioch
Seleucia
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Berytus
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Tyre
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Damascus
Jerusalem or Cadytis
Gaza
Pelusium
Mouths of the Nile
Nile R.
Memphis
Cairo
Heliopolis
Arsinoe
Naucratis
Thmuatis
Rhinocorura
Casium
Pelusiac
Cyrene
Cyrenaica
Barca
Berenice
Ammonis
Catabathmus
Parætonium
Apis
Libya
Libyan Desert
Arabian Desert
Arabia
Arabian Sea
Mediterranean Sea
Ægean Sea
Hellespont
Propontis
Cyprus
Salamis
Paphos
Citium
Amathus
Lapithus
Cerynia
Ledra
Chelidonia
Sarpedon
Hermæan Prom.
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30 35 40 45 50 55 60 65 70 75 80 85 90

Melanchlæni
Thyssagetæ
Budini
Gelonæ
SCYTHIA
Sauromatæ
Turcæ
Kalmucs Desht
Seceding Roval Scythians
LESSER Horde
Kirgees Kipzak
Baskirians
Mountains
Riphæan
Arimphæi
Step of Tobol R. Country of GOG & MAGOG
Ostiaks
Imaus
Tartars
MIDDLE Horde
Kirgees
Karakalpaks
GREAT Horde
Kirgees
Abii
Scythæ Asiatici
Kolyman Mts
Gryphins
Region of Altai Mts
Arimaspi
Oirats
Euths, or Manas
ISSEDONES
Oiguri
Ottorocorrhæ
Casia Eastern
Turkestan
Chatæ
Chauranæi
Kara
Western Turkestan
Sarti
Otrar
Jaxartes
Sourkend
Aksoulet
Tashkend
Kashgar
Yarkand
Khoten
Lop Nor
Kas Nor
Tankabash
Caspian, or Hyrcanian Sea
Caspian Gates
Derbend
Caucasus M.
Colchis
Iberia
Albania
Armenia
Media
Assyria
Mesopotamia
Babylonia
Susiana
Persia
Margiana
Aparytæ
Bactriana
Paropamisus
Arachosia
Thuman
Gedrosia
Arabian Desert
Desert of Kobi
Part of Kobi
Great Desert
Desert of Artai
Ganges R.
Indus R.
Oxus R. or Bruce, 1723.
Ancient course of the Oxus, and until A.D. 1640.
Jaxartes R.
Tanais, or Don R.
Volga R.
Palus Maeotis
Euxine
Caspian Sea
High Sea or Aral
Lake Zaizan
Lake Baikal
Lake Tengri
Lake Palus
Lake Aral
Lake Urmia
Lake Van
Lake Maragan
Lake Zerre
Lake Kabul
Lake Kaidem
Lake Yezdecas
Lake Kabis
Lake Zaran
Lake Kaboutan
Lake Kaboudan
Lake Kabid
Lake Kabeuan
Lake Kabeuan
Lake Kabeuan

The TWENTY SATRAPIES of DARIUS HYSTASPES, in ASIA and AFRICA: with the TWO SCYTHIAS, &c &c.



Published according to Act of Parliament by James Rennell. Feb. 12th 1800.

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Geographic Miles

Stades of 718 to a degree

Published according to Act of Parliament by James Rennell, Feb. 12th 1800.

J. Walker Sculp.

SECTION XI.

OF THE TWENTY SATRAPIES OF DARIUS HYSTASPES; CONSIDERED GEOGRAPHICALLY, AND ALSO WITH A REFERENCE TO THE CATALOGUE OF THE ARMY OF XERXES.

The Persian Empire *contained most of the known Part of Asia.—Much geographical Knowledge may be derived, from the Account of the Satrapies—Arrangement of this Dissertation.—Asia Minor divided into Four Satrapies; and arranged by the Persians, with a View to a Concentration of its naval Force.—Lydia, and Empire of* Crœsus—*Gold of the* Pactolus.—*Phrygia, anciently the great Body of Asia Minor.*—Syrians *of Cappadocia, or* Leuco-syri—Troy, *and the* Troade.—*Strength and Importance of* Cilicia, *in a military View.*—Phœnicia *and* Palestine—JERUSALEM, *under the Name of* Cadytis.—*Monuments of the Conquests of* Sesostris—Jews *intended, by the* Syrians *of* Palestine. *Herodotus, ignorant of their History.*—Phœnician Letters, *and* Commerce.—Egypt, *the Conquest of Cambyses*—*Greatness of its Tribute*—Ethiopians *present* Gold Dust, *Ivory, and Ebony—Egyptian Forces sent to Xerxes, consisted of Ships; but the Crews fought also on Shore.—Arabian Auxiliaries.*—Desert *between* Egypt *and* Syria—*Arrangement of* Cambyses *to procure Water, in his Passage through it, to Egypt—Similar Arrangement of* Nadir Shah, *in Persia.*—Assyria *included the Countries in general,* below Taurus.—Babylonia—*A Proof of the Veracity of our Author.—Sensible Custom respecting diseased Persons.*—Nineveh—Cissia, *or* Susiana—Susa.—*Disposal of the Captive* Eretrians, *and* Boeotians, *by the Persians.—Agreement of* sacred *and* profane *History, in several Instances.*—Media, *a beautiful and extensive Tract.*—

Nisæan *Horses, and Pastures.—The Term* Median, *employed to express both* Medians *and* Persians, *collectively.—Cities of* Ecbatana *and* Rages.

Of that portion of Asia, known in detail to Herodotus, and, as may be supposed, to the Greeks in general of his day, the Persian empire under Darius Hystaspes formed by far the greatest part. Accordingly, our Author's account of the distribution of the Persian empire into twenty Satrapies, is particularly curious, and no less useful; as it points out the particulars, as well as the extent, of the geographical knowledge of the times. And although there are some errors in the description, as there must necessarily be, where the subject is so very extensive, yet it is on the whole, so remarkably consistent, that one is surprised how the Greeks found means to acquire so much knowledge, respecting so distant a part. It is possible, that we have been in the habit of doing them injustice, by allowing them a less degree of knowledge of the geography of Asia, down to the expedition of Alexander, than they really possessed: that is, we have, in some instances, ascribed to Alexander, certain geographical discoveries, which perhaps were made, long anterior to his expedition.

This arrangement of the Satrapies, is not to be regarded as a mere list of names of countries; for, aided by the catalogue, and the description of the army of Xerxes, and some other notices; it furnishes us with much information, relative to the manners and customs of their inhabitants. The date of Darius's arrangement, differs so little from that of the expedition of Xerxes, which succeeded it, that matters may be considered as continuing much in the same state.

Of the whole number of Satrapies, one only was situated beyond the boundary of Asia; and that one, in Africa: and so extensive was this empire of Persia, that Alexander, from the time he first crossed over into Asia, scarcely ever overstept the boundary of it,

constituted as it then was. We are even told by Herodotus, Clio, 4, that the Persians esteemed ASIA, their own peculiar possession.* But Asia, however, is to be understood in a limited sense: for the parts beyond India, and Turkestan, were, as we have seen, unknown.

The conquests made on the continent of Europe, and in its islands, although subjected to regular tribute, were not erected into *Satrapies*. Indeed, the measure of dividing the empire, was anterior to the European conquests.

Our Author informs us, Thalia, 89, that one of the first acts of authority of Darius Hystaspes, was to divide Persia into 20 provinces, which they called SATRAPIES; to each of which, a governor under the title of *Satrap*, was appointed.† That he then ascertained the tribute they were severally to pay, connecting sometimes, many nations together, which were near each other, under one district; and that sometimes he passed over many, which were adjacent; forming one government of various remote, and scattered nations. He adds, that during the reign of CYRUS, and indeed of CAMBYSES, there were no *specific tributes*, but *presents* were made to the sovereign. That, in these innovations, Darius seemed to have no object in view, but the acquisition of gain: Cambyses was negligent and severe; whilst Cyrus was of a mild and gentle temper, ever studious of the good of his subjects: and from this difference of disposition, the Persians called Darius a merchant; Cambyses, a despot: but Cyrus (that which should be the ambition of all princes to gain), a PARENT.

The PERSIANS (inhabitants of Persia *proper*), and the *Colchians*, together with their *Caucasian* neighbours, were the only provinces, situated *within* the boundary of the empire, that were not classed in

* And, in Calliope, 116: "the Persians considered *all Asia* as their *own*, and the property of the reigning monarch."

† In Daniel, ch. vi. ver. 1. DARIUS the MEDE (taken for Cyaxares II.) divides his empire, which consisted of the territories of Babylon and Media, united, into 120 provinces, subject to three presidents, of whom Daniel was one.

Satrapies, and subjected to tribute. They possessed the singular privilege of taxing themselves, and presenting the produce, in the form of a gratuity. The origin of this privilege, in Persia, may obviously be referred to its superiority in rank and command. How the Colchians and Caucasians obtained it, we know not. The Ethiopians who bordered on Egypt, and were subdued by Cambyses, were similarly circumstanced: and the Arabians adjacent to Egypt, ever independent of a foreign yoke, presented a gift of frankincense.

Although Herodotus has said, that one part of the arrangement was to join together in one government, provinces that lay remote from each other; yet, it is certain, that on a review of the geographical positions, as far as we are able to determine them, there scarcely appears any thing of this kind: for though in some instances, the component districts may form a Satrapy of an inconvenient form, and not at all concentrated, yet they are almost invariably found to lie contiguous to each other.

In the enumeration of them, our Author does not observe in general any kind of geographical connection. For instance, although he begins in *Asia Minor*, and proceeds pretty regularly to *Egypt*, yet he then goes off at once, beyond the *Caspian*; and, moreover, in the course of his description, wanders from one side of the empire to the other; so that he steps at once from *Bactria* to *Armenia*, and from the *Euxine* to the *Indus*. As it will be a saving of fatigue to the reader, to preserve a geographical connection, we shall adopt such an arrangement of our own, as may effect that purpose: in which however, we shall add the *original* number likewise, for the sake of reference to the original statement.

Following the example of our Author, we begin in *Asia Minor*, which was divided into four Satrapies: and proceed thence into the two succeeding ones of Phœnicia and Egypt. By this mode of arrangement, the whole tract of sea coast, which furnished that important aid, towards the invasion of Greece, a maritime force; will be given in a connected form. Even in another point of view, they

form a distinct species of territory, as they comprize generally the Greek colonies, and the establishments raised by their industry, arts, and courage, in Asia; a wonderful instance of exertion, in states so circumscribed in point of physical extent and means; compared with the rest of the world. To these, must be added, *Egypt*, the venerable parent of Grecian arts and superstition; but, whose geographical situation having denied her the protection afforded to Greece, occasioned her early fall, to the *increased* power of Persia.

Proceeding thence from the Syrian and Phœnician shores of the Mediterranean, we trace the countries between it and the head of the Persian gulf; and which have Arabia on the south, the Euxine, Caspian, and mount Caucasus, on the north. Within this space are *seven* other Satrapies; so that 13 of the 20, lay to the *west* of Persia *proper*, the *original* kingdom of *Cyrus*. Of course seven others must lie to the east of the same country.

Some of the names of the countries, were probably such as the Greeks, alone, applied to them; and which might not be those used in the countries themselves; and are in use there, at present. It is therefore probable, that *Media*, *Colchis*, *Bactria*, &c. might be names in use there also, though now lost. *Bactria*, indeed, is likely to have been the same with the *Balk* of the present time. We now proceed to the discussion of the geographical positions of the Satrapies.

The first *four*, as we have said, are contained within the limits usually assigned to *Asia Minor*, and little difficulty occurs in arranging their limits: but they are disproportioned in point of extent, and the two first, very irregular in point of form.

THE SATRAPIES.*

I. " The Iönians† and Magnesians of Asia, the Æolians, Carians, Lycians, Meleyans, and Pamphylians, were comprized under one district; and jointly, paid a tribute of 400 talents of silver." Thalia, 90.

These subdivisions are all well known; and include the sea coast of Asia Minor, from the gulf of Adramyttium, and the Troade, on the north, round by *Cnidus*, and the *Triopian* Promontory,‡ to Cilicia, on the east: an extent of coast equal to about 450 G. miles. The province of *Doris*, as well as those islands of the Archipelago which shelter this deeply indented coast, are, of course, included.

No doubt, the long extended, and inconvenient form, of this Satrapy, as far as respected the purposes of internal regulation, was calculated to obtain some advantages in the disposition, and distribution, of the naval armaments intended against Greece: for the whole of the fleet of *Asia Minor* (save that of the Hellespont and Cilicia) was furnished by the first Satrapy: and consisted of 357 ships, out of 1207, which formed the strength of the whole naval armament of Xerxes; and which included also the fleets of Phœnicia and Egypt.

In the catalogue of the nations who composed the armament of Xerxes, all of the above, save the inland province of *Melias* or *Mylias*, served in the *fleet;* and formed no part of the *land* force.

The *Milyæ*, in the army of Xerxes, (Polym. 77,) carried short spears; and some of them had Lycian bows.

The *whole* country of the *Lycians* (says our Author) was formerly called *Milyas*. The Lycians were of Cretan origin, but derived their present name from *Lycus*, son of Pandion; Clio, 173. *Milyas* was afterwards applied to the *inland* part of Lycia,

* The reader is referred to the Map, No. V. at page 229, for the geography of the Satrapies.

† Iönia began at the gulf of *Jasius:* Pliny, lib. v. c. 29.

‡ See above, page 185; note.

from whence springs the Lycus river, the southern branch of the Meander.

Our Author frequently derives the names of countries in Asia, from those individuals, who either colonized or reduced it. We find the like in modern times; as *Pennsylvania; Maryland; Carolina; Georgia;* &c.

II. " The second Satrapy, which paid 500 talents, was composed of the Mysians, Lydians, Alysonians, Cabalians, and Hygennians." Thalia, 90.

This division, which is by far the smallest of all the 20, does not appear to have touched on the sea, in any part: for although *Mysia* in later times included the coast of the Troade, and the south coast of the Propontis and Hellespont; yet we find in the arrangement of our Author, that the *right* side of the Hellespont forms a part of the *third* Satrapy, together with Bithynia and *Asiatic* Thrace.

The greatness of the tribute paid by this Satrapy, in proportion to its very confined limits, calls for an explanation; and none appears more satisfactory than that the sources from whence the vast riches of CRŒSUS, king of Lydia, were derived, were contained in it. These were said to consist of mines, of gold and silver; and of gold sand, brought down by the small river *Pactolus*, which flowed from mount *Tmolus*.* It appears the more probable, as the arrangement of the Satrapies was made, at no great distance of time, from the period, in which the riches of Crœsus were proverbial.†

It is however, remarkable, that although the bulk of these treasures is understood to have consisted of *gold*, yet that, in the calcu-

* Terpsichore, 101. This source of wealth is said to have been exhausted, before the time of Augustus. Larcher.

† The history of CRŒSUS, and of his fall, by disputing the empire of Western Asia, with the Medes and Persians, is well known. His empire consisted of the greatest part of Asia Minor; for it was bounded on the east by the river Halys, on the south by Taurus (generally), and extended to the sea, on every other side. There seldom has been a more compact empire: and had he made a right use of the friendship of the Greeks, he might probably have possessed all Asia Minor, and held it in

lation of the whole sum of the tribute of the empire (Thalia, 95). India alone, is said to have paid its quota, in gold.*

In the list of the army, Polym. 74, are found the *Lydians*, anciently called *Meonians;* and the *Nysians*, no doubt intended for *Mysians*, who are said to be a *colony* of Lydians. The latter were also called *Olympians*, from mount *Olympus*, which was situated within their country; and which was a marked feature of it, to those who sailed along the Propontis. The Lydians and Mysians had the same commander; and, it would appear, are to be regarded as the same people.†

In Polym. 77, the *Cabalian Meonians* are said to be the same with the *Lysonians*, and these must also be taken for the *Alysonians*, just mentioned; which, in Ptolemy, are found under the name of Lycaones,‡ between *Caria* and *Pisidia*. The Cabalians therefore, should be regarded as *Meonians* or Lydians, like the *Mysians*. They formed a part of the same command, with the *Milyans*, their neighbours; who, notwithstanding, belonged to a different Satrapy, as we despite of the Persians. The fable of the *dog* and the *shadow*, applies with all its force, to this monarch.

"After Crœsus had extended the power of the Lydians, Sardis (his capital) became the resort of the great and the affluent; as well as of such, as were celebrated in Greece, for their talents and their wisdom. Among these was SOLON," &c.; Clio, 28. The anecdotes of this great legislator, at the court of Crœsus, which follow, are well worth the attention of the reader. Much consolation may be drawn from them; and, as a matter of curiosity, we find wisdom and true philosophy, contrasted with folly and weakness, in a very striking manner.

* Aristagoras (in his report of the countries between Iönia and Susa), speaking of the Lydians, says, that "they possess a fertile territory, and a *profusion of silver;*" Terp. 49. Nothing is said concerning gold.

† Amongst a number of other modern discoveries, which serve to prove the truth of our Author's descriptions, is the sepulchre of *Alyattes*, king of Lydia, (the father of Crœsus,) described in Clio, 93. Herodotus says, that it is second to no monument of art, save those of the Egyptians and Babylonians. Dr. Chandler saw it, and has described the remains of it, in his Travels in Asia Minor, p. 263.

‡ This country is perfectly distinct from *Lycaonia*, which forms the eastern extremity of Phrygia.

have shewn above; for the arrangement of the Satrapies of Darius, and the military commanderies of his son Xerxes, are to be considered as perfectly distinct.

Of the *Hygenians*, we know nothing. On the whole, the second Satrapy appears to be an inland tract, extending from north to south, between mount *Olympus* and mount *Taurus*; bordered by the maritime provinces (which compose the first Satrapy) on the west, and south; and by Phrygia on the east.

III. "A tribute of 360 talents was paid by those who inhabit the *right* side of the Hellespont; by the Phrygians, and Thracians of Asia; by the Paphlagonians, Mariandynians, and Syrians: and these nations constituted the third Satrapy." Thalia, 90.

This, compared with the two former, is a very extensive province: although the whole three, collectively, fall short of some of the largest divisions, or Satrapies. It includes the great body of Asia Minor, situated to the north of Taurus, and east of Lydia: as well as the whole northern coast, from the Troade, to the river Thermodon, in Pontus. It is, however, to be remarked, that in all this extent of coast, the Hellespontians and those of Pontus, were the only people who furnished ships; and the Hellespontians appear to have sent *four-fifths* of these. This serves to shew, that the Euxine, then, as well as in latter times, possessed but little commerce of its own. So that it either had no materials which were in request, in the commerce of that day, or no consumption of foreign productions. The southern shores of the Euxine, are said to abound with naval stores; as timber, iron, and hemp, in the present times; and, as it would appear from ancient notices, timber and iron were then in great plenty; since two of the nations mentioned by Xenophon, the *Chalybes* and *Mosynœcians*, were evidently denominated, the one from their being workers in iron or steel, the other from the materials of their habitations.

However, these naval stores might not have been in request amongst the commercial nations in the west, because they might

have had enough of their own, to serve their purposes. For we are not to judge of the consumption of naval stores, at that day, by that of the present; when the coasts of the whole world are ransacked for timber, either for the purposes of war, or commerce; and when the forests of Asia, as well as of Europe, and America, float on the bosom of the Atlantic.

The country of *Phrygia* occupied the central parts of Asia Minor; and was a country of very great extent. It included, amongst others, the tract afterwards named *Galatia*, from the conquests and settlements made in it, by the Gauls. Armenia is said to have been colonized by the Phrygians: the Armenians were armed like the Phrygians, and both nations were commanded by one general, in Polym. 73. And hence it may be inferred, that the intermediate country of Cappadocia, also, was filled with the same race. Our Author says, in the same place, that, according to the *Macedonians*, the Phrygians, as long as they were *their* neighbours, and lived in Europe, were called *Bryges;* but that, in passing over into Asia, they took the name of *Phrygians.** So that their progress was *eastward*, and from Europe into Asia, like the Thracians of Asia (or *Bithynians*), who are said, in Polym. 75, to have come from the banks of the *Strymon*. So that the course of migration and conquest, on the *south* of the Euxine, seems to have been *opposite* to that on the *north*.

By the *Syrians*, are meant the *Cappadocians:* for it appears from several passages in our Author, (as Clio, 6, 76; Euterpe, 104; Terpsich. 49; and Polym. 72.) that the people of Cappadocia, and at the Euxine sea, at *Sinope*, and along its coasts, from the river *Parthenius*, on the west, to the *Thermodon* on the east, were called SYRIANS. Strabo confirms it generally; calling them *Leuco-syri*, or *white* Syrians; in contradistinction to the Syrians on the south of mount Taurus.† But although the Syrians are placed at the river Parthe-

* In Erato, 45, the *Brygi* of Thrace, attack Mardonius, in Macedonia.

† Page 736. Pliny also, lib. vi. c. 3.

nius, in Euterpe, 104, yet Paphlagonia, which therefore ought also to have been inhabited by Syrians, is arranged under its proper name in this Satrapy; and the Paphlagonians are classed as a distinct people, in the list of the army, in Polym. 72. But Sinope is in Paphlagonia, and its inhabitants, *Syrians*, in Clio, 72. Hence we must allot, not only Cappadocia, but all the tract between it and the Euxine, to the *Leuco-syri*.*

The *Mariandynians*, the only remaining people to be spoken of, in this Satrapy,† occupied a part of the coast of the Euxine, between *Bithynia* and *Paphlagonia*. In the army of Xerxes, the Paphlagonians are joined in one command with the *Matieni*; whilst the *Mariandyni*, are joined with the *Syrians*, and others. One might have suspected that *Matiene* was an error, especially as there is another country of *Matiene* in *Media*. But Herodotus says, in Clio, 72, that the river Halys divides *Matiene* on the right, from *Phrygia*, on the left; thus pointing out the western part of Cappadocia, for the *Matiene* in question. No traces of such a name can, however, be found there, but the description is certainly consistent.‡

It appears then, that the third Satrapy extended eastward along the Euxine to the river *Thermodon*, in *Pontus*; where it met with the district of the *Tibareni*, belonging to the 19th Satrapy. Also, that it extended to the course of the Euphrates, inland; or it may be, only to the *Anti-Taurus*, which might divide it from Armenia: and southwards, to mount Taurus.

If we except the *Thracians* of *Asia*, there is scarcely any diversity

* It is to be remarked, that Strabo, p. 534, divides Cappadocia into two Satrapies.

† We cannot find the *Ligyes*. Could they be meant for the people of *Lycaonia*? Neither *these*, nor the *Pisidians* are classed, either in the Satrapies, or in the army, under those names.

‡ It is possible that the province of *Tyana*, may be the *Matiene* here spoken of, as the situation agrees. Or *Tyana*, as a part, may have given name to the whole. It is in effect, a part of Cilicia: but has sometimes been reckoned to Cappadocia.

of dress or weapons, throughout this extensive Satrapy, mentioned in the history of Xerxes' expedition. The dress of these Thracians (Bithynians) consisted chiefly of skins of deer and foxes; (Polym. 75.) The Paphlagonians, with their neighbours the Mariandynians, the Phrygians, and Syrians (by which are meant Cappadocians), wore helmets of network, with buskins, which reached to the middle of the leg; and had for weapons, small spears and bucklers, besides javelins and daggers. The Thracians had a general of their own: the Mariandynians and Ligyes had a commander in common; and the Phrygians, as has been said, were joined with the Armenians, their *colonists*.

The Hellespontians, in conjunction with the people of Pontus, sent 100 ships (triremes); Polym. 95; and the people of *Abydos* had the charge of defending the bridge, at the Hellespont. The proportion of ships sent by the *Pontics*, should be 20, of the 100; as Diodorus states that the others sent 80.

The *Troade*, although not specified, here, is included in this division. The siege of Troy, and the circumstances that led to it, are, however, spoken of, in other parts of his work.*

* Doubts have been recently started, not only whether the Trojan war ever happened, but even whether such a city as Troy, ever existed.

It may however, be said, that most of the ancients, believed both: and Thucidydes, who is no mean authority, marks it as one of the historical facts that is worthy of credit; doubtless from having considered all the different authorities, many of which may now have ceased to exist.

Frequent allusions to the Trojan war, occur in Herodotus; and the original cause of the enmity of the Persians to the Greeks, is said to have been the destruction of Troy: Clio, 5. See also, Polym. 161; and Calliope, 27. Xerxes is said to have ascended the *citadel* of *Priam*: that he sacrificed to the Trojan Minerva; and offered libations to the manes of the heroes; Polym. 43. He, then, believed the above facts; and the same may be said of Alexander; judging by his conduct. We must consider, how much nearer to the date of the event, these personages lived: for in respect of the times of Xerxes and Alexander, the event of the taking of Troy, would be much the same, as the conquests of Tamerlane, or the Norman conquest, to us.

Alexander believed that he saw the tombs of Achilles and Patroclus, at Troy; and

IV. " The Cilicians were obliged to produce every day, a *white* horse; that is to say, 360 annually; with 500* talents of silver. Of these, 140 were appointed for the payment of the cavalry, stationed for the guard of the country; the remaining 360 were received by Darius: these formed the fourth Satrapy." Thalia, 90.

In this statement we have notices of an arrangement, different from that, throughout the rest of the empire; and which might have grown out of the importance of Cilicia, considered in a military point of view; as being a post, that, according to the hands

the consecrated armour, in the temple of Minerva; Arrian, lib. i.; and Curtius, lib. ii.

Herodotus was informed by the Egyptian priests, that the Greeks had certainly taken and destroyed the city of Troy; but that, instead of finding Helen there, as they expected, she was at the same moment, in Egypt; being detained by King PROTEUS, who afterwards restored her to her husband, Menelaus:† Euterpe, 116, *et seq.*: and particularly 120.

This event is supposed by Sir Isaac Newton, to have happened about 900 years before our era; and consequently about 450 years, or more, before the visit of our Author to Egypt. It may perhaps be allowed, that the tradition preserved by the priests, was of equal authority to the Iliad; *in point of history*: and, at all events, the prominent facts, of the rape of Helen, and the siege and destruction of Troy, remain exactly as they were.

The matter then, may perhaps be reduced simply to this: that the above facts may be received, but that the poem of Homer has been ornamented with fictions, in order to render it more interesting! Who, ever thought it necessary, to receive as facts, all the matter of an epic poem?

It appears also, that too much accuracy is looked for, in Homer's description of the ground of the Troade; for why should he be expected to be more accurate in *that*, than Virgil in his description of the strait of Messina; with its *Scylla* and *Charybdis?* And yet the latter is known to be merely a poetical fiction.

Herodotus had an idea, Euterpe, 53, that HOMER lived 400 years, and no more, before him.

* The same number is given by Aristagoras, in Terpsichore, 49.

† It is proper to remark, that, in Clio, 3, the aggressor is named ALEXANDER; but in Euterpe, 113, *et seq.* PARIS; the name by which he is more commonly known, although both may equally belong to him.

into which it fell, either connected, or separated, the two countries of Asia Minor and Persia, on the one hand; Asia Minor, Syria, and Egypt, on the other. Of this much more will be said in a future work, which is to treat, amongst other subjects, of the Cilician passes. Be it as it will, the force sent to Xerxes, consisted entirely of ships; 100 in number; as probably they were in greater request at that time, than cavalry. Polym. 91.

The boundaries of *Cilicia*, being of the natural kind, and very strongly marked, it may be supposed that they have not *greatly* varied, at any time. The fertile and capacious valley of *Cataonia*, formed by the separation of the ridges of Taurus, may, at times, have been included, and at others, excluded. But, it is certain, that Herodotus extends Cilicia to the Euphrates, (in Terpsich. 52,) where he makes that river the boundary between Cilicia and Armenia, in the line of the great road leading from Sardis to Susa. If this was really so, the Northern Syria (or perhaps Comagena only), must have been reckoned to Cilicia; as the northern part of Mesopotamia, between mount *Masius* and *Taurus*, really was to Armenia; of which several proofs appear; but more particularly in Clio, 194, where boats are said to descend from *Armenia*, *above Assyria*, to Babylon.

By a passage in the book of Judith, (ch. ii. ver. 21.) it also appears, as if Cilicia extended to the east of *Amanus*.

V. " The tribute levied from the fifth Satrapy was 350 talents. Under this district, was comprehended the tract of country, which extended from the city of *Posideium* (built on the frontiers of Cilicia and Syria, by *Amphilochus*, son of *Amphiaraus*), as far as Egypt; part of Arabia alone excluded, which paid no tribute.* The same Satrapy, moreover, included all *Phœnicia*, the *Syrian Palestine*, and the Island of Cyprus." Thalia, 91.

Thus, *Phœnicia* and *Palestine* formed the body of this Satrapy,

* More will be said concerning this tract, in the sequel.

and both were included in *Syria*; (regarded as synonymous with Assyria; for this is to be collected from various places in our Author:) and, it appears, that in order to complete the boundaries of this division, we have only to find those of *Phœnicia* and *Palestine*.

In Thalia, 91, "*Posideium*" is said to lie on "the *frontiers* of *Cilicia* and *Syria*."

Palestine and *Phœnicia* are parts of Syria, in Euterpe, 116, and 158: "*Syria* borders upon *Egypt*; and the Phœnicians, to whom Sidon belongs, inhabit part of *Syria*"—and, "Syria is divided from Egypt by mount *Casius*."

Again, Polym. 89: "The Phœnicians, by their own account, once inhabited the coasts of the *Red* sea; but emigrated from thence to the maritime parts of Syria: all which district, as far as Egypt, is denominated *Palestine*."*

Thus, it appears, that our Author clearly discriminated *Phœnicia* and *Palestine*, from Syria at large: and that the name by which he denominates Palestine, is usually SYRIA of PALESTINE.

The boundaries of this Satrapy, are by no means difficult to be ascertained: *Posideium* occasions the only difficulty. This city, which is said to have stood on the *common frontier* of Cilicia and Syria; and consequently on the northern frontier of the *latter*, and of the *Satrapy*, in course; was situated on the sea coast of Syria, nearly opposite to mount *Casius* (of *Antioch*). Now, this appears contrary to all the geographical arrangements of the Greeks, and Romans; because Cilicia terminated, and Syria began, at the *pass*, situated at the shore of the gulf of *Issus*: and Posideium stood about 50 miles to the southward of that pass; and could have no relation to the Cilicia of the Greek and Roman systems.

* The reader may perhaps, be apprized, that the country named PALESTINE by the *Greeks*, is called FALASTIN by the Arabs; and that this last is the PHILISTINE of the Scriptures. The land of the *Philistines*, was that quarter of Palestine towards the coast, left in possession of the original inhabitants.

It is certain however, that the reported situation of Posideium, on the *northern frontier* of the *Satrapy*, may possibly be true, since Herodotus, who had himself been in Palestine, might, perhaps, have travelled by land to it, from Natolia, in his way to Egypt; and thus might have ascertained the fact, himself: in which case, however, Cilicia must *then* have included a great part of what was afterwards reckoned to Syria. And it is certain, that Cilicia is extended to the Euphrates, in Terpsichore, 52, where it meets Armenia; as has been shewn in pages 191, and 242. This therefore agrees with what is said concerning Posideium; although it does not agree with the geography of the times of Xenophon and of Alexander.

As to the real northern boundary of Phœnicia, it is difficult to fix it, although it would seem that *Posideium* was intended for it, by Herodotus. Xenophon calls *Myriandrus* in the gulf of Issus, (which is the *Marandynian* bay, or more properly *Myriandinian* bay of our Author, in Melpom. 38,) a *Phœnician* city: and as Herodotus also says, that this bay is *contiguous* to *Phœnicia*, this should be decisive of its boundary, if Posideium did not stand a good way to the south, of the gulf in question; and was, notwithstanding, the northern extremity of the Satrapy that was *said* to *include* ALL *Phœnicia*. Perhaps, as Herodotus and Xenophon appear to concur in the report of the northern boundary of Phœnicia, placed at the southern part of the gulf of Issus; whilst Posideium was the northern point of the Satrapy, and was also reckoned contiguous to *Cilicia*; it may be, that the Phœnicians possessed certain insulated tracts, or townships along the coast, beyond the extent of their continuous territory: and *Myriandrus* might be one of these.*

Phœnicia extended along the coast of the Mediterranean, southward, to the termination of the ridges of Lebanon and Anti-Lebanon, near Tyre; where it met the border of Palestine. In breadth, it comprehended only the narrow tract between the continuation of

* This has happened continually in modern times, as well as in ancient. The European factories on the coast of AFRICA, and INDIA, are in point.

mount Lebanon and the sea; with the deep valley between the two ridges, named *Cœle-Syria;* now the valley of Bekaa.

Palestine, Syria of Palestine, or Syrian Palestine, has its boundaries too familiarly known to need description, here. It extended from *Phœnicia* and *Cœle-Syria* to the borders of Egypt, fixed by our Author at mount *Casius* (of Arabia), in Euterpe, 158; but in Thalia, 5, at the *Sirbonic* lake, a little to the eastward of that mount. The Arabian territory lying between it and Egypt, and which, in common with Arabia in general, was exempted from tribute, comprized *Idumea*, (or *Edom,)* the original seat of the *Ishmaelites*.

Herodotus, as we have said, had visited *Palestine*, if not *Phœnicia* also. The city of JERUSALEM he names CADÝTIS, doubtless meant for the Arabian name *Al Kads*, the HOLY: in effect, a translation of the other. He says, Thalia, 5, "that it is a city belonging to the *Syrians* of *Palestine;* and in his opinion, equal to *Sardis.*" It is mentioned a second time in Euterpe, 159, on occasion of its being taken possession of by *Necos*, king of Egypt, after his victory over the *Syrians* at Magdolum *(Megiddo)*.

He had seen in Palestine some of the *pillars*, or *monuments*, erected by SESOSTRIS, in token of conquest; and which had disappeared for the most part, in the countries that had been conquered by him. See Euterpe, 102, and 106. Perhaps these monuments remained longer in the parts adjoining to Egypt, which might be in some degree subject to its influence, or domination, than in distant parts. Our Author believes that Sesostris over-ran Asia, and passing into Europe, conquered *Scythia* and *Thrace:* and that thus far, the monuments of his victories are discovered. Also that he left a detachment in *Colchis:* the relation of which circumstance, has given occasion to suppose, that the Egyptians were black, and had *crisped* and *curling* hair, like the Negroes. The context, surely, leads to a belief of the fact; although *we* may not be prepared to receive it. But at the same time, it is to be remarked, that he classes Egypt,

geographically, as a country *quite distinct* from *Lybia* (or *Africa*): that is, he does not allow the Egyptians to be *Africans*. See Euterpe, 16, and 17.

To return to the Syrians of Palestine.—He remarks that *these*, as well as the *Phœnicians*, acknowledged that they borrowed the custom of circumcision, from Egypt: and says, that it can be traced, both in Egypt and Æthiopia, to the remotest antiquity; so that, it is not possible to say, which of the two, first introduced it; but that the Egyptians unquestionably communicated it to other nations, by means of their commercial intercourse; Euterpe, 104. Without entering into the question concerning the origin of this custom, one may be allowed to remark, that, if our Author had made the inquiry amongst the *Jews* themselves (who should be meant by the *Syrians* of *Palestine*), they would surely have told him otherwise: and, it is probable, therefore, that he took his information from the Egyptians.

He seems to have known but little concerning the history of the Jews. The date of his visit to Palestine and Jerusalem (which latter, one must conclude by his expression above quoted, in page 245, he had certainly seen,) was short of a century after the re-establishment of the temple and worship, after the Babylonish captivity. But he is, notwithstanding, quite silent respecting the Jewish customs and worship, although he says so much concerning those of the Egyptians. He is equally silent, concerning the revolutions in this celebrated, and highly interesting spot. This appears very remarkable: for though the captivity must have greatly changed the face of things in Palestine,* yet the singular institutions, and modes of life of the Jews, not only drew forth the most pointed remarks, from the Roman writers, at a much later period, but are

* Palestine had, since the flourishing times of DAVID and SOLOMON, suffered from the invasions of the Assyrians and Babylonians, the Egyptians and Scythians: and those classes of people which determine the national character, and weight, in the eyes of foreigners, had either been removed, or annihilated.

acknowledged at the present day, to constitute a kind of standing miracle.*

No man whatsoever, was a truer friend to the interests of the human race, than Herodotus: had he therefore been endowed with a prophetic spirit, to have foreseen that from Palestine there was to arise a LIGHT to guide the footsteps of men to the highest state of happiness that this world affords, by humanizing them, and making them fitter for the purposes of society; and moreover by giving them hopes of a better state hereafter; he would have thought it a spot of much more importance than he attaches to it.

He refers to this quarter of the world, the important invention of letters: and there seems to be no doubt, that the alphabets of the *Western* world, were derived from this source, alone. He observes, Terpsichore, 58, that "the Phœnicians who came with Cadmus (into Bœotia) introduced during their residence in Greece, various articles of science; and amongst other things, LETTERS; with which, as I conceive, the Greeks were before unacquainted. These were at first, such as the Phœnicians themselves indiscriminately use; in process of time, however, they were changed both in sound and form. At that time, the Greeks most contiguous to this people, were the Iönians, who learnt these letters of the Phœnicians, and with some trifling variations, received them into common use. As the Phœnicians first made them known in Greece, they called them, as justice required, PHŒNICIAN letters."†

* See in particular Diodorus, lib. i. c. 8; and the remains of the xxxivth and xlth. These passages will also be considered in a future section, in which we shall touch slightly on the subject of the FIRST CAPTIVITY of the Israelites, by the king of Nineveh.

† Herodotus adds, Terps. 58, that, "by a very ancient custom, the *Iönians* call their *books*, DIPHTERÆ, or SKINS; because at a time when the plant of the *biblos* was scarce, they used instead of it, the skins of goats and sheep. Many of the BARBARIANS have used these skins, for this purpose, within my recollection."

The Persians name a *record*, or *writing*, DUFTER. Is it not probable, that the

The extended scale of the Phœnician commerce, is a theme of ancient history, as well sacred as profane. The *amber* of Prussia, and the *tin* of Britain; the *linen* of Egypt, and the *spices* of Arabia; the *slaves* of Caucasus; and the *horses* of Scythia; appear to have centered in their emporium.* There is, however, no intimation of *Indian* productions, in the catalogue of merchandizes just mentioned, although they appear to have possessed two islands in the Persian gulf, whose names, *Tyrus* and *Aradus*, mark them for Phœnician possessions. These seem to have been two of the smaller islands, near the entrance of the gulf, and not those of *Bahrein*, as M. D'Anville has supposed; for they are placed by Strabo, p. 766, at 10 days' voyage from the mouth of the Euphrates; *one* only, from the Promontory of *Maceta* (Massendon). Ptolemy, Tab. vi. Asia, places them exactly in the same position, and marks the Bahrein Islands (or those which represent them), also.

According to our Author, India had been recently explored, by the orders of Darius Hystaspes, and seems to have been little known to the Persians before his time. Ezekiel prophesied concerning the destruction of Tyre, only 60 or 70 years before Darius: and, as we have said, no traces of Indian products or manufactures appear in his catalogue. The two accounts therefore, agree: and impress an idea, that the Phœnicians did not trade to India, at that period. Had they known, and traded to, India, *through* the Persian empire, the Persians doubtless would not have been ignorant of India: which, if we are to credit our Author, they were, previous to the expedition set on foot by Darius, and conducted by Scylax; who first explored the Indus, and the coasts between it and Persia, &c.

Ionians borrowed the term from the Persians, together with the use of the skin itself, the name of which may perhaps be rendered PARCHMENT?

* These last, we should understand, by the merchants of *Ivan*, *Tubal*, and *Meshech*, "who traded in the *persons of men*, and vessels of brass, in the markets:" and the house of *Togarmah*, "who traded in the fairs with *horses*," &c. Ezekiel, ch. xxvii. ver. 13, and 14.

It may therefore have been, that these discoveries, and the consequent union of *Western* India, with the empire of Persia, laid the foundation of a commerce between those countries, although the communication between Egypt and India might have existed much earlier. And, it is not impossible, that the visit of Darius to Egypt, which was in the train of Cambyses,* and little more than a century after the date of the splendid discoveries of the Egyptians in the Southern ocean, might have given him the idea of prosecuting discoveries in the East, from the gulf of Persia. He might also have learnt at the same time, that the Egyptians had a commerce with India, by sea.

The Phœnicians however, are said to have traded, in the produce of Assyria (meaning the empire of that name; Clio, c. 1.), and which probably, included not only that of Assyria, but of Persia and Arabia also; transmitted *through* Assyria. The inland *carrying trade*, was, no doubt effected by the camels of Palmyra; which place therefore formed an important link in the chain of communication.† It might not have suited the convenience, perhaps not the dignity, of the Phœnician merchants, to become the camel keepers of the desert.

The Phœnicians, who, although at one period denominated Erythræans, either from their real, or supposed, origin, from the shores of the Red sea, were, no doubt, an assemblage of industrious and enterprising adventurers, from all the *neighbouring* countries, at least; and perhaps, from very distant ones, also. Great wages of labour, and great profits of trade, would invite the different classes of mankind; and with such a people, gain must have been the prime object. Our Author gives, at the very opening of his history, a curious anecdote of Phœnician *commerce*, and Phœnician *perfidy*.

* He was one of the guards of Cambyses, and, although of royal descent, being of the family of the Achæmenides, was at that time of no particular consideration. See a very curious anecdote of Darius Hystaspes, in Egypt, in Thalia, 139: and an account of his parentage and descent, in Clio, 209.

† More will be said concerning this subject, in a future work.

They traded, amongst other places, to *Argos*, which was at the period spoken of, the most famous of all those states, which were afterwards comprehended under the general appellation of GREECE. A Phœnician ship lying at the shore, so that people could walk to and fro, exposes her merchandizes to sale, on the shore, close to the ship. The king's daughter, Iö, comes, with many other females, either as a visitor, or a purchaser. "Whilst (says the historian), these females, standing near the stern of the vessel, amused themselves with bargaining for such things as attracted their curiosity, the Phœnicians, in conjunction, made an attempt to seize their persons. The greater part of them escaped, but Iö remained a captive, with many others. They carried them on board, and directed their course for Egypt;" Clio, c. 1. It is to be remarked, that these Phœnicians, like true traders, did not venture to commit this act of violence, until they had nearly disposed of their cargo, and were paid for it. A commander of a slave ship, on the coast of Africa, could not have acted with more worldly prudence!

The aid furnished by this Satrapy to the armament of Xerxes, was composed entirely of ships: and consisted of the amazing force of 450 triremes; 300 of which, were from the continent, 150 from the Island of Cyprus. This was more than $\frac{1}{3}$ of the whole fleet of triremes; and more than double the quota furnished by Egypt. But then it was the combined force of *Phœnicia*, *Palestine*, and *Cyprus*: the boasted fleets of Tyre, Sidon, Aradus, and the numerous ports of Syria, from *Egypt* to *Cilicia*.

It has been said, in the geographical description of this Satrapy, page 242, that a portion of Arabia intervened, between Palestine and Egypt: and that, in common with the rest of Arabia, it remained independent of Persia. The tract in question, consists of Idumea (or Edom), and the desert which bordered on the sea coast, between *Gaza* and *Pelusium*; and which affects in a material degree, the act of communication between the two countries. But, as it appears to belong as much to the subject of *Egypt*, as of *Syria*, we shall post-

pone the consideration of it, till that of Egypt has been discussed, since that will contribute in a considerable degree, to its elucidation.

VI. "Seven hundred talents were exacted from Egypt; from the Africans which border upon Egypt; and from Cyrene and Barce, which are comprehended in the Egyptian district. The produce of the fishery of the lake Mœris was not included in this, neither was the corn, to the amount of 700 talents more; 120,000 measures of which were applied to the maintenance of the Persians and their auxiliary troops, garrisoned within the *white* castle of Memphis: this was the sixth Satrapy." Thalia, 91.*

This Satrapy, then, consisted of the *entire* country of Egypt, together with certain tracts of Lybia adjacent to it, on the west; and which, extended along the sea coast of the Mediterranean, to the utmost limit of *Cyrenaica:* for Herodotus says, Melpom. 204, that "the farthest progress of the Persian army, was to the country of the *Euesperidæ;*" by which is intended the *western* limit of Cyrenaica, near the garden of the *Hesperides:* of which more in the sequel, under the head of Africa. *Cyrene*, *Barce*, and other Lybian provinces, had been nominally surrendered to Cambyses (Thalia, 13.); but were not, we believe, taken possession of: it was during the reign of Darius Hystaspes, that the Persians abovementioned, made the expedition to the westward.†

As to the *Africans*, who are said to *border* on Egypt, and were subject to Persia, they were probably the people of the *Oases* in that

* Egypt and Cyrene, although parts of Africa, and therefore belonging to a different division from that, now under consideration; yet, as forming a part of the twenty Satrapies, they could not, in point of regularity, be omitted, in this place. However, they are here considered merely as political divisions; and will be spoken of, more at large in their proper places, under the head of AFRICA.

† The conquest of Egypt had been left to Cambyses, by Cyrus. It is said in Clio, 153, that Cyrus was prepared for serious resistance, from the *Sacæ* and *Egyptians*. The first he reduced; the latter it is said, in another place, was left to his successor.

neighbourhood; and perhaps also, those bordering immediately on Upper Egypt, between *Syene* and the great cataract (of *Jan Adel*): although these, in effect, constituted a part of Egypt, at large. They could not be meant for the people of *Ammon*, since the army of Cambyses perished in the attempt to reach their country; so that both *Ammon* and *Augela* must be regarded as independant. Much less could the *Ethiopians* be intended: for they are expressly said to be independant. It is said, in Thalia, 97, that even the Ethiopians, who were subdued by Cambyses, in his expedition against the Macrobian Ethiopians, were not included in the tribute levied on the Egyptian Satrapy; but *presented*, like the Persians, and some few others, a *regular gratuity*. As the progress of Cambyses towards the *Macrobians* (whom we regard as the *Abyssinians*), was said to be less than one-fifth of the whole way (Thalia, 25.), it must be supposed that he never got *through* the *desert* of *Selima*: that is, on a supposition that *Thebes* was the place of outset, and *Sennar* the entrance into the country of the Macrobians. Of course, the conquests made in this quarter, could have been but trifling; and the sum of the present, seems to shew it. It consisted of two *chœnixes* of gold, *unrefined;* 200 blocks of ebony wood; 20 large elephants' teeth, and five Ethiopian youths. It was repeated once in *three* years: and the custom was continued to the time of Herodotus. Thalia, 97.

The *chœnix* of Attica, is reckoned by Arbuthnot the 48th part of a *medimnus*, which being about 70 English pints, of $34\frac{1}{32}$ cubic inches, a chœnix may be taken at somewhat less than a *pint* and *half*. Hence, the value of the gold *dust* presented once in three years, might be about 80 guineas.

It may clearly be collected, that the gold, which constituted a part of this present, was sent in the form of *dust* (as it is commonly called); because the quantity was ascertained by the *chœnix*, which was a measure for dry goods, amongst the Greeks; and not by

weight, as in other cases. Moreover, it was said to be *unrefined*; which, no doubt meant exactly in the state in which it was, and is still, collected, in the African rivers.

The Egyptian force *originally** sent to Xerxes, consisted, like that of Cilicia, entirely of ships, and of which they sent no less than 200 triremes:† but the other districts of this Satrapy, sent land forces; having, it may be concluded, no ships to send.

It appears that Xerxes, collecting the naval force of the Mediterranean, from the Hellespont inclusive, to Lybia; had a fleet of somewhat more than 1200 triremes: for he wisely fixed the contingencies of the maritime provinces, in *ships*, in order to collect the greatest possible force, by sea; having his choice of land troops from every other quarter of his vast empire.‡

It is said, Polym. 96, that amongst the mariners, the *Phœnicians*, (as might have been expected) were the best; and of the Phœnicians, the *Sidonians* were the *most select*.§ The crews of the ships, c. 184, are said to have consisted generally of 200 (these were *triremes*): to which were added 30 others, either *Persians*, *Medes*,

* This will presently be explained.

† The maritime force of Egypt was equal to $\frac{2}{3}$ of that of all Phœnicia, at this time.

‡ Besides the *triremes*, there were 3000 vessels, of 30 and 50 oars; of long transports for cavalry, and of a particular kind of vessel, invented by the Cyprians; Polym. 97. Thus the whole fleet consisted of about 4200 vessels. (The reader is requested to correct accordingly, the note in page 127, where 3000 is stated to be the number of the *whole* fleet.)

§ In Polym. 128, it is said, that Xerxes preferred the *Sidonian* ships, when he had occasion to make an excursion by sea. This fully proves his opinion of them. The like occurs in c. 100, on occasion of the *naval* and *military review* at *Doriscus*. See also, c. 59. The naval review is described in c. 100: the 1200 *triremes* were moored in one uniform line, at 400 feet from the shore, with their sterns towards the sea, and their crews under arms, as if prepared for battle. Xerxes, sitting on the deck of a *Sidonian* vessel, beneath a golden canopy, passed slowly, the heads of the ships. The crews of the ships of war, alone, amounted to nearly 280,000 men: and of the whole fleet collectively (4200 ships) near 520,000.

or *Sacæ (i. e. Scythians*, subject to *Persia).** This last description of men, may perhaps be considered in the nature of *marines;* and it is worthy of remark, that the proportion of them, to the rest of the crew, does not differ much from the proportion of marines to our crews, in these times. As the *Medes* and *Persians* were esteemed the *best* troops of the empire; and the *Sacæ*, as Scythians, some of the best archers; it may be concluded, that some services of a different kind, and requiring more skill in certain modes of combat, were expected from them, than from the crews in general: and it is not improbable, that this skill might be exerted in the management of missile weapons, in distant fight. More of this, when we speak of the *Sacæ* themselves.†

The Egyptians wore helmets made of *network* (like the nations of Asia Minor). Their shields were of a convex form, having large *bosses:* their spears were calculated for sea service,‡ and they had huge battle axes, besides large swords.§ For defensive armour, they had breast-plates. Polym. 89.

The Lybians were dressed in *skins*, and had the points of their wooden spears hardened in the fire; Polym. 81. These were, in point of weapons, the most contemptibly furnished of any, throughout the whole army; in which were every kind of offensive weapon, from polished steel, to wood hardened in the fire; with all the inter-

* The ships of *Chios*, in number 100, had each a crew of 400, in the preceding reign, Erato, 15. This agrees very nearly with the numbers in the contending fleets of the Romans and Carthaginians, in their most improved times of naval warfare.

† The *whole* crew of the ship, was 230, of which 30 were *Sacæ*, &c. Such of our ships, as have crews of 240 men, have 37 marines; and, according to the same proportion, the Persian ships should have had 35 to 230.

The Author feels a particular degree of satisfaction, in finding the same term, MARINES, employed by his friend Dr. Gillies, in his excellent History of Greece. The idea had been recorded by both, without the previous knowledge of the other.

‡ Spears have been universally used at all times, in sea service; to prevent boarding, no doubt. Some of these mariners had *two* spears.

§ Littlebury translates this, *bill*, or *bill-hook*.

mediate varieties, of *fish bone*, *horn*, and *stones;* and of defensive armour, from coats of mail of burnished steel, formed in scales, like those of fishes (which the Persians wore, Polym. 61.), to the *raw* hides of animals.

The Ethiopians (of Africa) were clad in skins of panthers and lions, and had bows of palm wood, four cubits in length. Their arrows were short, and made of reeds, and were pointed with stone;* (69.) They had also, spears pointed with goats' horn, and knotty clubs. They painted their bodies half red, half white; and had hair more *crisp* and *curling* than any other men; 70. They are said to come from *above* Egypt; (69.) and are to be regarded, not as subjects but as allies, of Persia; in common with the Arabians and some few others.

The Arabians were joined in the same command with these Ethiopians; and a brother of Xerxes commanded them; Polym. 69. The Arabians were probably *Idumeans* and *Nabatheans;* and not of Arabia Felix. There were of these, cavalry, as well as infantry: the former, who had many camels belonging to them, were said to place these animals in the rear, that the horses might not be frightened at them;† 87. The dresses of the Arabians were *long flowing vests*, called *ziræ:* their bows were long, flexible, and crooked; 69.

The Africans are said to have fought in chariots; Polym. 86. These were probably from the quarter of *Cyrene;* for our Author observes of the *Asbystæ*, (Melpom. 170.) that they are beyond all the Africans remarkable for their use of chariots, drawn by four horses: and in 189, he says that the Greeks themselves borrowed from the Africans, the custom of harnessing four horses to a carriage.

It is proper to explain the cause of the appearance of Egyptian land forces at the battle of *Platæa*, after it has been stated, that they sent a naval force only; and that their *spears* were calculated for

* Said to be stones of the kind used for engraving seals.

† This was an error of long standing, but is now quite exploded.

sea service. It appears, then, Calliope, 32, that Mardonius had landed, at *Phalerum* (one of the ports of *Attica)*, that part of the Egyptian force, which had been originally disciplined for land service; and which was drawn from the tribes or classes of *Hermotybians* and *Calasirians;* who alone of that country, followed the profession of arms. (See an account of the districts of these tribes, &c. in Euterpe, 164, 165, and 168.) The *pilots*, or *seamen*, constituted a distinct class.

It may be inferred from the above, that the proportion of *seamen* was very small indeed, in the ancient ships; as also that the *manœuvres*, and general duty of the ships of war, were so far from being complicated, that landmen who had got rid of their sea-sickness, were very soon, and easily trained to it. The sails were probably furled on the deck.

We shall now perform our promise, respecting the tract lying between Palestine and the borders of Egypt; which is become more particularly interesting at this time, when Egypt, and its communications with Syria, occupy so much of the public attention.

Herodotus observes, Thalia, 4, *et seq.* that the only avenue by which Egypt can be entered, from the side of Palestine, is by a *dry* and *parched desert*, where *very little* water can be procured.* That Cambyses, who meditated the conquest of Egypt, was deterred by this difficulty, until he obtained permission of the king of Arabia, to pass through his territories (that is, *Idumea*, and the desert of *Pelusium)*; which seems to have implied also, the service of supplying water for the army; by his means.† A treaty was accordingly

* The southern part of PALESTINE bordering on the desert, is also very sandy; so that water can only be procured from deep wells. See the contests between the Patriarchs and the Philistines, about the wells, in Genesis, ch. xxi. and xxvi. *Beer Sheba*, or the well of Sheba, and Gerar, were situated on the edge of the desert in question.

† "The Arabians were never reduced to the subjection of Persia (or indeed, to any foreign power), but were in its alliance; they afforded Cambyses the means of

made, and the ceremonies of its ratification are given:* (Thalia, 8.) after which, water was provided, in the desert, for the Persian army, in its march from Palestine to Pelusium, the frontier garrison of Egypt; situated at the *embouchure* of the *then* eastern branch of the Nile: but this celebrated river, has so far deviated from its former course, that Damietta, situated at the branch which forms the present eastern limit of the *Delta*, is between 60 and 70 British miles to the westward of Pelusium: and much of the intermediate space is returned to its ancient condition, of a desert.†

Our Author observes, that there were two stories in circulation, respecting the mode of conveying the water: the one, and which he thought the most probable, was, by transporting it on camels, in skins (of camels); which is the mode used at the present day, in the caravans. The other, that it was conducted in pipes, made of the skins of animals, into reservoirs, at *three* distinct places. It was added, that the water was brought from a river *(Corys)*, which emptied itself into the Red sea, and was 12 journies distant. This was, however, the marvellous part of the story: but perhaps the truth might have been, that water was conducted through pipes into reservoirs, either from small running springs, whose waters were ordinarily absorbed by the sands of the desert (which is the case in many places); or from *draw-wells*. It appears morally impossible to have supplied a *Persian* army, and its *followers*, and beasts of

penetrating into Egypt, *without which he could never have accomplished his purpose.*" Thalia, 88.

* It is there said that BACCHUS and URANIA were the only deities, whom they venerated; and that they called Bacchus, *Urotalt; Urania, Alilat*. The latter must be taken for ALLAH; the name of GOD, amongst the Arabs.

† *Damietta*, was the *Tamiathis* of ancient geography; and the branch of the Nile that runs by it, was the *Phatmetic;* the fourth in order of the seven branches, in going westward from *Pelusium*. It appears to be the deepest of the modern branches; and ought to have been deep anciently; since the fleet of Antigonus was ordered to shelter itself there. Diodorus, lib. xx. c. 4.

burthen with water, by means of *skins*, during the whole march. Arabia could scarcely have supplied skins enough.*

If we may judge of the nature of the Idumean and Pelusiac deserts, by those of Syria, Arabia, &c. there should be in the inland tract, (although not in the line followed by the caravans, which passes very near the sea,) both wells and springs; and it was easy for the army to make a *detour*, for that purpose. From the journals of passengers across the *Arabian* desert, it appears, that the Arabs well know where to obtain water; and that they have, in

* An arrangement somewhat similar to the former, made by Nadir Shah (Kouli Kan), is related by ABDUL KURREEM, translated by Mr. Gladwin; p. 51, *et seq.*

Whilst employed in the conquest of Khowarezm, (1740) he informed the governor of *Meru-Shahjehan*, that on his return, he should march from Charjoo on the Jihon, by way of Meru and Kelat, to Meshed, his capital; and gave him the following information and instructions: "That from the river *Jihon (Oxus)* to the borders of Meru, being a sandy desert, the army could not march above 11 farsangs a day (cosses of two British miles are probably meant; a farsang is nearer four), so that it would take them up four days† to go from Charjoo to Meru. That, for the first day's march, they would carry sufficient water from the Jihon. That although at the second stage, there is a large lake called *Ab Issar*, yet for fear it should not be sufficient for so large an army, the governor should order about 30 *Baghleyeh* wells to be sunk there. (The well so called, and which is used in all sandy soils, is made by sinking a frame of wood, stuffed with straw, or grass, to line the inside of the well, and prevent the sand from falling into it.) At the third stage, 18 such wells were to be made. For the fourth day, he was ordered to dig a large reservoir, and to supply it with water, by making a canal three farsangs in length from the river of Meru. This last stage was 15 *farsangs*.‡ Finally, he directed him to make a great number of *water bags* for camels and mules, and to *borrow* as many more as he could find; which were to be filled at the *new* reservoir, and sent onwards five farsangs, that the men might be able to allay their thirst on the march. The governor of Meru punctually executed these several commands." Notwithstanding these precautions, we learn (p. 69.) that many died on the march.

Thus the tyrants of the earth command the labour of man, in order to rivet, more firmly, the chains of his fellows.

† It should be five, by the sequel. Such inaccuracies perpetually occur in the writings of the Orientalists.

‡ More probably *cosses*.

many places, stopt up the wells, in order the more easily to arrange their schemes of depredation. But, as it happens, that camels will go several days without water, the caravans are content with a very few watering places; and disregard personal inconveniences. It is a strong presumptive proof, of there being water to be had, *generally*, in the Arabian desert, that the caravans if they please, make a direct line of course, across it.*

Herodotus says, Thalia, 5, that the Syrian city of *Jenysus* is three journies from mount *Casius* (of Egypt); or rather perhaps, the distance should be understood, to be meant from the lake Serbonis; to a part of which, it is nearly adjacent. Thus, the text allows us to place *Jenysus* at no great distance to the SW of *Gaza* (and between it and Raphia); and to this circumstance of geographical position, others will be found to agree: so as to leave very little doubt that Jenysus was situated on the Syrian edge of the desert; and that it may be identified with the *Kan*, or *caravanserai*, of *Iönes* (Kan *Iönes)*, situated at five or six hours travelling to the SW of Gaza.†

The modern travellers across the desert in question, represent it, in the line of the caravan route, from Egypt to Syria, to be formed of loose sand, and destitute of *good* water; corresponding with the "dry and parched desert," of our Author.‡ The route leads from Cairo, which is situated near the banks of the Nile, to *Salahiah*, the eastern frontier of the habitable part of Egypt (anciently *Sela)*; and thence, leaving the site of Pelusium about three miles to the north, it soon after approaches the sea coast, which it afterwards skirts, the

* The reader is referred to the very curious narratives of the journies of English travellers, from Aleppo to Palmyra, in the years 1678, and 1691, in the Philosophical Transactions, Vol. xix. Their guides found both springs and wells. See also the journal of Mr. Eyles Irwin across the Syrian and Arabian deserts: of Mr. Carmichael, in Grose's Voyages, &c.

† With respect to the position of *Jenysus*, Mr. Beloe is unquestionably right, in his note to Thalia, 5. M. D'Anville was of the same opinion.

‡ See M. Thevenot, Della Valle, &c.

whole way to Gaza, at the distance of a few miles. At, or near, *Kan Iönes* the country begins again to have verdure, trees, and good water, being the first of those productions that are to be seen, after leaving *Salahiah*.*

The distance appears to be 107 G. miles *direct*, from Salahiah to *Kan Iönes;* and this is the extent of the desert: that is, a space equal to 10 *ordinary* marches of an army, and not, at any rate to be performed in less than seven days; if water could be procured. This was the interval of time that the caravan, in which M. Thevenot travelled, was in motion; although they halted two or three days by the way.

The space between mount *Casius* and Kan Iönes, is about 60 G. miles direct; but the lake of *Sirbonis* approaches many miles nearer to Kan Iönes, and therefore the three journies allowed by Herodotus between *Jenysus* and the *lake*, may be allowed to accord with that, between the *lake* and *Iönes;* taking a day's journey at 17 G. miles in *direct* distance. Hence, *Kan Iönes* may well be taken for *Jenysus*.

But from Jenysus to *Pelusium*, the distance was about 90 such miles; or, Pelusium was 30 miles farther than mount Casius, from Jenysus. Herodotus is silent concerning this part of the road, as if the desert had been confined to the first three days. This must remain unexplained; but, in the present day, it appears to be one continued desert, from Kan Iönes to the borders of Egypt; and the history of the march of Antigonus seems to prove the same state of things, then.

* *Salahiah* may be regarded as the *pass*, on the side of Egypt towards Syria; as *Gaza* is on the Syrian side. Therefore, in respect to its *use*, it stands in the place of the ancient *Pelusium*, which was reckoned the key of Egypt; possessing, like Salahiah, the first drinkable water, in coming from the side of the desert. By the retreat of the Nile, westward, Salahiah, although more to the west than Pelusium, becomes the most advanced watering place towards Syria. The use of establishing a post here, by the French, lately, is therefore manifest. Geographically, it lies about 18 G. miles to the SW of the site of Pelusium: and about the same distance inland from the Mediterranean.

Thus, it appears, that in order to pass an army from Syria into Egypt, or *vice versa*, either the friendship and assistance of the Arabs must be secured, or a supply of water must be *carried* by the army itself; or in ships or boats, to the coast of the desert. Since the time of Cyrus, at least, Egypt and Syria have generally been subject to one master, which has served to facilitate the communication between them.

The expedition of Antigonus, against Ptolemy king of Egypt (B. C. 304.), although pretty much detailed in Diodorus (lib. xx. c. 4.), affords no explanations relative to the mode of procuring water.

It appears that he sent his fleet, which consisted of 150 ships of war, and 100 transports, or store ships, from Gaza, under the command of his son Demetrius: and marched himself, at the head of the army, from the same place, for *Pelusium*, with a view to surprise Ptolemy. The fleet was directed to arrange its motions, so as to communicate with the army; and the army, kept very *close* to the sea shore, or to that of the lake *Sirbonis*. It was said to consist of 80,000 foot, 8000 horse, and above 80 elephants.

Antigonus had collected an incredible number of camels, from Arabia; and making use of these, and other beasts of burthen, and a great number of carriages, he took with him, through the desert, provisions and forage. The soldiers also carried with them 10 days' provisions: but nothing is said respecting the provision of water; whether it made a part of the lading of the camels; whether the soldiers took it with them; or whether there was any arrangement for a supply, from the Arabs of the desert; according to the method employed by Cambyses. The fleet, either through bad weather, or calms, was often separated from the army, so that no regular supply could be derived from the ships; although, by the nature of the original disposition, one might conclude that it had been intended.

Nothing therefore can be gathered, respecting the mode by which

Antigonus supplied his vast army with water. It is certain that the historian does not record any complaint, of the want of it: and it might be, that he was not aware of the difficulty of procuring it

It appears that Ptolemy was well provided for the reception of Antigonus. He had lined the banks of the river of Pelusium, which was at that season very deep, with fortifications: and had also provided a *flotilla* in each of the mouths of the Nile; so that the enemy was foiled in every attempt to land from his fleet: and he was finally compelled to retreat with disgrace, to Syria.*

IX. We are now compelled to depart from the numerical arrangement of Herodotus, for the reasons stated at the outset (page 232): and to enter next on his ninth Satrapy, *Assyria*, &c.; although no more than the seventh, in our *geographical* arrangement; *his* seventh Satrapy being situated beyond the Caspian sea.

"BABYLON, and the *other parts* of ASSYRIA, constituted the ninth Satrapy, and paid 1000 talents of silver, with 500 young eunuchs." Thalia, 92.

This Satrapy is one of the most extensive and rich, of any. Assyria, in the idea of Herodotus (and which is further explained by Strabo), comprehended not only Assyria *proper*, by which is to be understood the country beyond the Tigris, and of which, Nineveh was the capital, but *Syria* and *Mesopotamia*† likewise; as well as *Babylonia*: for our Author says, "*Babylon*, and the *rest* of the

* Herodotus relates (in Thalia, 6, 7.) a curious particular concerning the disposal of the *jars*, in which wine was sent to Egypt, from Greece and Phœnicia. These jars were collected by the Persians (after the conquest of Egypt, by Cambyses) at Memphis, and sent, full of Nile water, to the desert, to aid the communication across it, when Egypt and Syria were both in their hands. This was certainly a very useful arrangement. Diodorus, lib. xix c. 6, reports, that the *Nabathæans* of the adjoining desert, kept stores of rain water in earthen vessels, concealed in the ground, from whence, as from a grand magazine, they drew forth sufficient quantities for their ordinary expenditure.

† The term *Mesopotamia* seems to be of a later date than the time of Herodotus.

Assyrians:" and Assyrians and Babylonians are synonymous terms, in Clio, 106, 178: and Thalia, 155.*

In effect, SYRIA, in the contemplation of our Author, as well as of Strabo, was a *member* of *Assyria;* and appears to be only the same name, a little abridged; perhaps without the article. In the enumeration of the army of Xerxes, Polym. 63, speaking of the *Assyrians*, "These people the Greeks call *Syrians*, the Barbarians *Assyrians;* mixt with these, were the *Chaldeans.*" And in his description of the regions of Asia, Melpom. 39, no country is mentioned between *Persia* and *Phœnicia*, save ASSYRIA and ARABIA: and he adds, that "the whole of this region is occupied by *three* nations only:" these therefore we must suppose to be the *Assyrians*, *Arabians*, and *Phœnicians*.

However, it is certain that he also uses the term SYRIA, to express collectively, SYRIA properly so called, together with SYRIA of PALESTINE, and PHŒNICIA; as we have already shewn in page 243; although the two latter are not classed as belonging to the Satrapy of *Assyria*, but to that of *Phœnicia*. The Syrians, north of Taurus, or the *Leuco-syri*, have been already spoken of; and are totally distinct from these.

This Satrapy then, extended in length, from the Mediterranean sea, opposite Cyprus,† to the head of the Persian gulf; and in breadth from mount Taurus to the Arabian desert; having *Cissia* (Susiana), *Media*, and *Matiene*, on the east; *Armenia* and *Cappadocia*, on the north (the former of which seems to have commenced at mount *Masius*); *Arabia* on the south; and on the west *Cilicia*, the *Mediterranean* sea, *Phœnicia*, and *Palestine*.‡

According to our Author, Clio, 192, Babylonia was reckoned

* Strabo, as well as others, extend ASSYRIA in like manner. See the xvith book of Strabo, particularly.

† *Posideium*, which stood on the borders of *Cilicia* and *Syria* (Thalia, 91.) was nearly opposite to *Cyprus*. See above, pages 242, and 243.

‡ The physical geography of this tract has been spoken of in section VIII.

equal to $\frac{1}{3}$ of Asia, in point of revenue; previous (as we understand it,) to the time of Cyrus; and its government was deemed by much the noblest in the empire. It must be conceived that by Babylonia, Assyria in general was meant. Herodotus speaks of its fertility and produce, in terms of admiration: the Euphrates was the principal agent of this fertility, but he remarks that it does not, like the Egyptian Nile, enrich the country by overflowing its banks, but by the dispersion of its waters by manual labour, or by hydraulic engines: the country, like Egypt, being intersected by a number of canals; Clio, 193. It appears evidently, that he had himself visited Babylonia: he speaks of the *palm*, as abounding there (as Xenophon after him); and was no stranger to the distinction of sexes in these trees; but seems to be mistaken in certain parts of the œconomy of nature, in this matter.*

He has collected a number of curious particulars respecting *Babylon*, and its province; which would occupy too much room, in this place; and therefore we refer the reader to the book itself: but as the reader will no doubt be gratified at finding that any custom described by Herodotus, exists in the present times, either wholly, or in part, we shall not pass over in silence his description of a particular kind of boat, seen by him on the rivers of Babylon. These were of a circular form, and composed of *willows*, covered with *skins*. They were constructed in *Armenia* (Upper Mesopotamia), in the parts above Assyria, and on their arrival at Babylon, the owners having disposed of their cargoes, they also sold all the materials of the boats, save the skins, which they carried again into Armenia, in order to use them in the construction of other boats. But the rapidity of the stream being too great to render their return by water practicable, they loaded the skins on the backs of asses, which were brought in the boats for that purpose. Some of these boats carried 5000 talents. Clio, 194.

* See Clio, 194. He says that the palm produces *bread, wine, and honey*. Xenophon also speaks of the palms of Babylonia much in the same manner.

The same kind of embarkation is now in use in the lower parts of the same river, under the name of *kufah* (that is a *round* vessel): but they are most commonly daubed over with bitumen, skins being very seldom used; being perhaps much scarcer than formerly.* These *kufahs* are exactly in the form of a *sieve*, and require only a few inches depth of water to float in. The reader will immediately recollect the Welch *corricles*, and the boats of reeds and willows made in other parts of the world. The *ark*, that is the cradle, or boat, or both, of MOSES, was formed of the *bulrush*, or reed of the Nile, and daubed over with *pitch*: that is, we may suppose, *bitumen*. Exodus, ii. ver. 3.

We have reserved our remarks on the description of the city of Babylon, for a separate section, as they are too long for this place.†

* My friend Mr. John Sullivan, in his progress to India by land (through Natolia, and Mesopotamia), saw some of the kufahs covered with *skins*, in the manner which Herodotus relates.

Although Babylon was situated at the *Euphrates*, yet the canals of communication between that river and the *Tigris*, rendered matters much the same, as if the boats had come all the way, with the stream. They could not have descended from *Armenia* by the *Euphrates*, because of the interruption of the navigation, at the passage of mount *Taurus*.

† Herodotus promises to give the particulars of the capture of NINEVEH, by the Medes: perhaps a description and history of it, likewise; but it no where appears. See Clio, 106.

He *mentions* Nineveh, however, in several places; particularly in Clio, 102, 103, 178; and Euterpe, 150: but without any description. He speaks of its *first* siege by *Cyaxares*; and of the raising of that siege, by the Scythians of the Mæotis, on their irruption into Asia, as before related; page 111. Moreover, he calls it an *Assyrian* city; the royal residence of Sardanapalus; and speaks of its capture and destruction, by the Medes, after the retreat of the Scythians.

Both Diodorus and Strabo, attribute its foundation to NINUS, king of Assyria. The former, lib. ii. c. 1, describes its form and dimensions, to be an oblong figure, 150 stadia by 90; the longest side, being parallel to, and at, the bank of the *Euphrates* (*Tigris* is meant). He also speaks of its destruction, by the Medes.

Strabo (p. 737.) says, that it was larger than Babylon; which the above dimensions shew: and that it was totally in ruins.

From these notices, the first city of Nineveh should have been destroyed in the

One institution at Babylon we cannot forbear mentioning, for the good sense of it. "Such as are diseased, they carry into some public square: they have no professors of medicine, but the passengers in general interrogate the sick person concerning his malady; that if any person has either been afflicted with a similar disease himself, or seen its operation on another, he may communicate the process, &c. No one may pass by the afflicted person in silence, or without inquiry into the nature of his complaint." Clio, 197.

In the army of Xerxes (Polym. 63.), the Assyrian forces "had brazen helmets of a strange form, and difficult to describe. Their shields, spears, and daggers, were like those of the Egyptians: they had also large clubs pointed with iron, and *linen cuirasses*.* With these, whom the Greeks call *Syrians*, the Barbarians *Assyrians*, were

seventh century before Christ.§ Its situation is well known to be at the eastern side of the Tigris, opposite the city of *Mosul*. Strabo places it in the country of *Aturia;* and Dion Cassius says, lib. lxviii. that *Attyria* is the same with *Assyria*, the Barbarians having changed the *s* into *t*. Certain it is that both of the names *Assur* and *Nineveh*, are now found in that country; and the latter, is pointedly applied to the site opposite Mosul; where, according to travellers of the highest authority (Niebuhr amongst the rest), traces of the remains of a city are found; such as mounds of earth, and heaps which indicate the rubbish of buildings, as at Babylon.

It appears remarkable that XENOPHON, whose fifth encampment from the *Zabatus*, must have been near to, or on its site; and ALEXANDER, who passed so near it, in his way to the field of *Gaugamela (Arbela);* should neither of them have taken any notice of its ruins: the former especially, who notes the remains of two cities *(Larissa* and *Mespyla)* in his way towards the site of Nineveh, from the Zabatus.

According to Tacitus, there was a city named Nineveh, in this quarter, perhaps on the same site, in the reign of the Emperor Claudius.

* Perhaps *vests* quilted with *cotton*, or some such substance, to resist the ordinary cut of a sabre—war jackets.—These are worn at present by the soldiery, in the service of the petty princes of India.

§ This was previous to the captivity of the tribe of Judah. Tobias lived to hear of its destruction: (Tobit, at the end).

mixed the *Chaldeans*: all were commanded by one general. It may be remarked, that the Assyrians were far behind the Persians and Susians, both in dress and weapons.

VIII. "The eighth Satrapy (here we return again to our Author's progressive number) furnished 300 talents, and consisted of *Susa*, and the rest of the *Cissians*." Thalia, 91.

This division answers to the modern *Khuzistan*; and was situated between *Babylonia*, *Media*, *Persia*, and the gulf of that name. Next to the Lydian Satrapy, it is the smallest of the whole: but as it contained the then capital of the empire, *Susa*,* and possessed a rich alluvial soil, and valuable products, (and perhaps, as at the present day, rich manufactures also,) it was enabled to pay so considerable a proportion of tribute.† Aristagoras makes use of this remarkable saying, when he spoke to Cleomenes, king of Sparta, concerning Susa, called also the royal city and residence of Memnon,‡ "*Susa*, where the Persian monarch occasionally resides, and where his treasures are deposited—make yourselves masters of this city, and you may vie in affluence with Jupiter himself." Terp. 49.

There were of the *Cissians*, or *Susians*, both cavalry and infantry, in the army of Xerxes; Polym. 62, and 86. Their armour, arms, and accoutrements, appear to have been like those of the Persians; only that they wore *mitres* instead of *tiaræ*: and from circumstances in general, they appear to have been a rich, and a civilized people.

It was in this country of Cissia, or Susiana, that the ERETRIANS of the Island of *Eubœa*, (who were taken during the first invasion

* It is well known that the Persian monarchs had more than one capital. Ecbatana, from the coolness of its situation, (see the note, page 178.) was the summer capital; Susa, and Babylon, seem to have been their winter residences. Persepolis was also a distinguished place of residence. In the time of Herodotus, Susa was the capital.

† See the description of this country, and of its cities, in Otter, Vol. ii. p. 49, *et seq.*

‡ The foundation of Susa is by some referred to *Memnon*; by others to *Tithonius*. Herodotus always calls it the city of Memnon.

of Greece, by the Persians, during the reign of Darius Hystaspes,) were placed, after having been first passed into the small Island of *Ægilea;* Erato, 101, 107. After the memorable battle of Marathon, such of the Eretrians as had not contrived to escape, about 400 in number, including 10 women, were carried to Susa, by Datis and Artaphernes, as (it would appear) the principal trophy obtained in the expedition. Darius, much to his honour (as Herodotus admits that the Eretrians were the first aggressors), took compassion on them, and appointed them a residence at *Arderica*, in the district of Cissia; one of the royal stations, situated at the distance of 210 stadia from Susa. It cannot be recognized in the geography: but if, by the circumstance of its being a royal station, is meant that it was one of those between Sardis and Susa,* it should lie to the *westward* of the latter. Herodotus says that they remained there, *to his time*, and preserved their ancient language. Erato, 119.

These Eretrians are again heard of, in the life of Apollonius of Tyana, by Philostratus. On a visit to the king of Parthia, Arsaces Bardanus, at Ctesiphon, he is said to have petitioned the king, in favour of the Eretrians carried away by Darius Hystaspes; and that the king promised redress. This visit being made 50 years after our era, would necessarily have been 540 after their captivity.

The *Bœotians (Thebans)* carried away by Xerxes, Polym. 233, were placed in the country of Assyria, at *Celonæ* (now *Ghilanee)*, near the ascent of the pass of mount *Zagros*. This is collected from Diodorus, lib. xvii. c. 11. Alexander saw them at Celonæ in his way from Susa and Sittacene, to Ecbatana; after his return from India. Diodorus says, that they had not altogether forgot their language, laws, or customs; although they had learnt the language of the natives: doubtless, by intermarrying with them. This was no more than 150 years, or thereabouts, after their removal from Greece. Polybius speaks of the district of *Chalonitis* at the ascent of

* See an account of these stations in Terp. 52, and also in section XIII.

Zagros, in lib. v. c. 5.: and both the pass, and Ghilanee are well known, from the travels of Thevenot, Otter, and Abdulkurreem. The pass in question leads from the courtry of *Irak* into *Al Jebal*, or Kurdistan.

Certain persons amongst the Jews, who were carried into captivity by the Babylonians, were afterwards removed from Babylon, to the province of Susiana. Daniel was one of them. One of his visions was in the palace of *Sushan*, or *Susa;* ch. viii. It is worthy of remark, that the practice of the Persian, Median, and Babylonian kings, of referring their dreams to the soothsayers, as we find it repeatedly in the book of Daniel, is also spoken of by Herodotus, as a system.* In Polym. 19, the MAGI (who appear to be the *magicians* of Daniel, ch. iv. ver. 7.), deliver their opinions concerning the meaning of Xerxes' dream, respecting the invasion of Greece: and the interpretation was made known to the national assembly of the Persians. In like manner, the extraordinary dream of *Mandane*, the mother of CYRUS, and her father's dream respecting her; were referred to the MAGI, who are said to be "the usual interpreters;" Clio, 107, 108. Again in c. 110, their opinions are resorted to, on occasion of the disposal of Cyrus. And in a variety of other cases.

The practice of removing tribes of people from one country to another, to accomplish political purposes, has prevailed in all ages. Perhaps, there can hardly be devised a more cruel act of tyranny, when attended with compulsion; since every human creature has an attachment to its native soil and atmosphere; however bad they

* We have a pleasure in remarking, that there are a number of coincidences, between the historical facts in the Old Testament, and in our Author; if we make such allowances, as, from the experience of our own times, are requisite, on the score of misapprehension, and misinformation. Such, amongst other facts, are, the story of SENACHERIB king of Assyria, and the mice (Euterpe, 141.), which is a different reading of that in 2 Kings, xix. and 2 Chron. xxxiii.: the battle of *Magdolum* (Eut. 159.), instead of *Megiddo*, 2 Chron. xxxv. in which the king of Judah, was conquered by the king of Egypt.

may be, in the estimation of those, who, from observation, are enabled to judge of their qualities. In modern times, Tamerlane and Nadir Shah practised it, with great rigour: and, considering how numerous the instances are, in all ages, one ought not to be surprised at finding dialects of languages in situations very remote from their original seats.

X. "The 10th Satrapy* furnished 450 talents; and consisted of *Ecbatana*, the rest of *Media*, the *Parycanii*, and the *Orthocorybantes*." Thalia, 92.

It is well known, that there were *two* countries of the name of MEDIA, at the time of the Macedonian conquest; and that they were called the *greater* and *lesser*. The greater answers to the modern division of *Al Jebal*, or *Irak Ajami*; the lesser to *Aderbigian*, which was called by the Greeks *Atropatia*, perhaps meaning to imitate the former.† We conclude that Herodotus intended by *Media*, the *greater* Media, only; because he classes *Matiene*, which lay between the *two*, as distinct from Media; and because also, that Aderbigian appears to form a part of the *Saspires* and *Caspians*, which are also classed distinctly from Media.

Ecbatana, which will naturally be understood to mean the country that lay around that capital, will then form the northern part of the Satrapy in question. The *Orthocorybantes* may be taken for the people of *Corbiana*, now *Currimabad*, the southern part of Media, towards *Susiana*: and by the *Parycanii*, we conclude are meant the *Paretacæni*, the people of the eastern province of Media, which extended from *Persis* to the *Caspian* straits.‡

Media magna, or Media *proper*, occupies the midland and elevated tract, between the approximating parts of the Caspian sea, and the Persian gulf; having the low lands of *Susiana* on the south, and

* The *ninth* only, in this series. † See above, page 177, note.

‡ The *Paretacæni* were one of the tribes of Media; in Clio, 101. Pliny says, that the *Pratitæ*, or *Paredoni*, kept possession of the Caspian strait. Lib. vi. c. 15.

the hollow semicircular tract, which embraces the south part of the Caspian sea, (and which contains the provinces that may with propriety be termed *Caspian,)* on the opposite side. It formed also the central part of the GREAT PERSIAN EMPIRE, of that day; and was, from climate, verdure, and richness of soil, the most beautiful of its provinces. In the descriptions of modern travellers, and geographers, Media is more commonly reckoned the *western* part of Persia; it being in reality its most western province; mount *Zagros* forming the common boundary between Persia and Turkey. Ispahan, the present capital, is situated in the south-east corner of the division of ancient Media.

Thus, occupying the space between the two seas, on the north and south, and forming a kind of pass between the cultivated parts of Eastern and Western Asia, Media, no less from its geographical position, than from its fertility and temperature, was one of the most important and interesting tracts in Asia.

MEDIA may be deemed the *cradle* of what was afterwards denominated the *Persian power:* for, it produced not only a hardy race of men, but also a numerous breed of the finest horses, from whence was formed the best cavalry of Asia; which were in fact, *Median*, although the superior fortune of Persia, communicated its name to *those*, in common with the empire at large. It is also well known, that the Medes held the sovereignty of Asia, *previous* to the Persians. The horses in question were those bred in the *Nisæan* pastures; and which were so much famed for size, and for beauty and swiftness, in almost every ancient historian and geographer. These pastures are recognized in the beautiful country above mount *Zagros*, between *Ghilanee* and *Kermanshah.**

* See the Travels of M. Otter, Vol. i. p. 178, *et seq.*; Vol. ii. p. 11, *et seq.*

Nisæus, was a district in Media, remarkable for producing horses of an extraordinary size. Xerxes' chariot was drawn by them—and the sacred horses in the procession were *Nisæan;* Polym. 40. Alexander gave a Nisæan horse to *Calanus*, to carry him to the funeral pile. The king of Parthia sacrificed one to the *sun*, when

The Medes had both cavalry and infantry in the army of Xerxes: and they were armed and clothed like the Persians. Herodotus indeed says, that the military dress of the Persians, was, properly speaking, *Median*, and not *Persian;* Polym. 61, 62.* With the Greeks of his time, MEDIAN was applied generally to the united empire of Medes and Persians, as having from habit been applied to the power which held the sovereignty of Asia. This appears throughout his work. He says moreover, that in ancient times the Medes were universally named ARII (Polym. 62.); which agrees with Strabo; for by him, it appears, as if the whole tract between Assyria and India, had originally been called ARIA, by the Greeks.

Media boasted of the splendid city of *Ecbatana*, the summer capital of the Persian monarchs; now *Hamadan*.† Also that of *Rages*, perhaps of equal antiquity: afterwards revived under the modern

Apollonius of Tyana visited his court. *Masistius* rode a Nisæan horse at the decisive battle of PLATÆA. The Nisæan pastures are spoken of in Diodorus, lib. xvii. c. 11.; and in Arrian, lib. vii.

Ghilanee has been already mentioned, as the *Celonæ* of Diodorus, where the Bœotians were placed by Xerxes. See above, page 268.

* This ascendancy of the Median fashions, in so important an article as the military habit, serves to shew, that, although the fortune of Persia, under Cyrus, had risen superior to that of the Medes, yet that the latter were far more advanced in the arts.

† The city of *Ecbatana* was unquestionably on or near the site of *Hamadan*, in *Al Jebal*. A great number of authorities concur in proving this, although many refer it to *Tauris*, or *Tebriz*, in Aderbigian: Mr. Gibbon, and Sir W. Jones, amongst the rest. The authorities are too numerous to be adduced here: we shall only mention that Isidore of Charax places it on the road from *Seleucia* to *Parthia:* that Pliny says, that Susa is equidistant from *Seleucia* and *Ecbatana;* and that the capital of *Atropatia (Aderbigian)* is midway between *Artaxata* and *Ecbatana*. And finally, that it lay in the road from *Nineveh* to *Rages*, or *Rey*. (Tobit, ch. v. and vi.)

For the account of the foundation, as well as the description, of Ecbatana, the reader is referred to Herodotus, Clio, 98; Polybius, lib. x. Ex. 4.; Diodorus, lib. ii. c. 1.; and to the book of Judith, ch. i. ver. 2.

name of *Rey*, by the Mahomedans; and which was one of the largest and finest cities of the East; but is now a mass of ruins.* This province is moreover, famous for being the place of captivity of the ten tribes, or rather that *part* of them which was carried away by the Assyrians of Nineveh.†

* The ruins of *two* cities of the name of *Rey* are noticed by travellers, in the plain, at about 50 miles to the west of the Caspian strait; which was the position of *Rages*. For Rages, see Tobit, throughout: Strabo, 524, 525; and Polybius, lib. x. Ex. 4.

† See section XV.

SECTION XII.

THE SATRAPIES CONTINUED.

Caspian *and* Hyrcanian *Provinces; and* Dahestan.—*Bows made of* Bamboo.—Eastern *Armenia and Matiene.*—Colchians *not subjected to Tribute, but present Gratuities—attend Xerxes as Auxiliaries.*—Caucasus, *the Limit of the Persian Power—contains an infinite Number of Languages.*—Western *Armenia, peopled by* Phrygians.—*Mines of* Gold, Silver, Lead, Copper, *and* Iron, *in Mount* Taurus.—*Vallies of* Sophene *and* Diarbekir.—*Tribes along the South-east Coast of the Euxine*—Chalybes *and* Mosynœcians—Mardi, *or* Anthropophagi.—Persia Proper; *its Tribes emancipated from Tribute, by* CYRUS.—Pasagardæ *and* Persepolis.—Artæi, *a Name of the* Persians.—*Germanians, or Carmanians.*—Sagartii, *taken for a Tribe from* Zagatai.—Sarangæans, *the* Euergetæ *of Cyrus and the Greeks.*—*Utians, or Uxians.*—*The* Persians,—*the Flower of the Army of* Xerxes.—*Islands of the Persian Gulf, their various Uses.*—Parthians, Chorasmians, Sogdians, *and* Arians.—Bactrians—Sacæ, *distinguished Warriors; conquered by Cyrus*—Ethiopians *of* Asia—Indians—*vast Tribute levied on them; and in* Gold.—*Herodotus knew few Particulars of India, and misrepresented the Natives of it—Vindication of their Characters; as well from ancient Authors, as from the Conduct of Alexander.*—*The* Ganges *not known to Herodotus—his* Padæi, *the same with the* Gangaridæ *of others.*—Calanus, *the Friend and Companion of* Alexander—*Death of Calanus, on a Funeral Pile.*—Indian Widow *burns herself with the Body of her Husband; in the Camp of* Eumenes.—*Aggregate Sum of the Tribute—Proportions of Gold to Silver.—The Southern Nations recruited from* Caucasus, *from remote Times.—Population of Egypt.—General Observations.—Cause of the Assem-*

blage of so many Nations, by Xerxes—entire Conquest of Europe, *intended.—Rendezvous of the Fleet and Army of* Xerxes.—*Our Author's History, favourable to* Liberty.

XI. "THE *Caspians*, the *Pausicæ*, the *Pantimathi*, and the *Daritæ*, contributed amongst them 200 talents, and formed the 11th Satrapy." Thalia, 92.*

Of these, we find only the *Caspians* in the army of *Xerxes*; in which they formed one entire and distinct command: and there were of them, both cavalry and infantry; Polym. 67, and 86. The infantry wore vests of skins; had bows made of *reeds (bamboos* it may be conceived), and scymetars. In effect, they resembled the *Bactrians*, and *Arians*, their neighbours; 86: and there was a general resemblance in the *armour* of the *Bactrians*, *Caspians*, *Parthians*, *Chorasmians*, *Sogdians*, *Gardarians*, and *Dadicæ*: see Polym. 64, 65, 66, 86; so that all the nations situated to the east and north of Media, had so many points of resemblance to each other, as to shew that they had a common origin; that is doubtless from SCYTHIA: and this is shewn also from many passages in Strabo and Pliny.

It may be observed, that although the *Hyrcanians* appear in the list of the army, with dresses like the Persians; Polym. 62; they are not classed in any Satrapy; and on the contrary, the *Daritæ*, and other nations who are classed in the same Satrapy with the *Caspians*, do not appear in the army. It is possible, however, that the *Daritæ* may be meant for the *Dahæ*, of whom we have spoken so fully under the head of Scythia; and who effected a settlement in *Dahestan* at the south-east part of the Caspian sea, between Hyrcania and the ancient course of the river Oxus. See p. 222, *et seq.*

There are found in Strabo and Ptolemy, some notices respecting the *Pasicæ* and *Aspasiacæ*, who appear to be the *Pausicæ* of our

* The tenth only, in this arrangement.

Author. (See Strabo, p. 513: Ptolemy, Asia, Tab. vii.) They are placed near to, or bordering on the Chorasmians; whence of course, the Caspian Satrapy should border north-eastward, on Chorasmia. On the other hand, the nation of the *Caspians* inhabited the shore of the sea of that name (and which they appear to have communicated to it, in that quarter at least,) from the mouth of the river *Cyrus*, southward; Pliny, vi. 13. Strabo, p. 514, places them nearly in the same situation; and Ptolemy, between the mouths of the *Cyrus* and *Araxes*; which rivers, in ancient times, gained the sea by separate channels. We may therefore conceive the *Caspians* to have possessed the *eastern* part of *Aderbigian*, with the province of Ghilan, &c. The name however, was obsolete before the time of Strabo.

Thus, then, the 11th Satrapy seems to have extended at least from the mouth of the *Cyrus*, to that of the *Oxus*; occupying the semicircular tract, which embraces the south part of the Caspian sea; and which is shut up on the inland side, by a great ridge of mountains, forming a most romantic and beautiful amphitheatre, described by modern travellers, and also slightly mentioned by Quintus Curtius.* So that this Satrapy constitutes one vast natural division of country, and that of the most fertile and productive kind; being the modern provinces of *Ghilan*, *Mazanderan* (or *Taberistan*), *Korkan*, *Dahestan*, &c. known in ancient geography by the names of *Gela*, *Maxere*, *Tapuri*, *Hyrcania*, and the country of the *Dahæ*.

In effect then, *Hyrcania* should have been included in this division, although omitted in the statement of Herodotus; since it falls geographically between the Caspians and the Pausicæ; which latter, bordered, as we have seen, on Chorasmia, and marked the north-eastern extremity of the Satrapy. The *Pantimathi* may likewise be included, and may represent one or more of the provinces above enumerated.

* See Della Valle, Vol. iii.; Olearius's Travels, lib. vii.; Hanway's, Vol. i.; and Quintus Curtius, lib. vi. c. 4.

XVIII. "The 18th Satrapy was taxed at 200 talents, and was composed of the *Matieni*, the *Saspires*, and *Alarodians*." Thalia, 94.*

The position of *Matiene* is well known. It was, properly speaking, the north-west part of Media *major*, lying above the ascent of mount *Zagros*; and between Ecbatana and the lake of *Maraga*. In Terpsichore, 49, Aristagoras describes it as lying between *Armenia* and *Cissia*: and, in 52, the Gyndes is described to flow from it, in its course to the Tigris. According to our idea, although it borders on the SE of Armenia, yet it does not extend near so far to the south, as the province of *Cissia*, or *Susiana*.†

For the *Saspires*, or *Saspirians*, we have the following authorities: but it is proper to observe, that although this nation has different names in different places; as *Saspires*, *Saspines*, *Sapinians*, and *Sapirians*; yet they are all doubtless meant for the same people, as they are every one of them, connected geographically with the *Alarodians*.

"Beyond the Persians, to the north, are the Medes; and next to them, are the *Saspirians*. Contiguous to these, and where the *Phasis* empties itself into the *northern* sea, are the *Colchians*," &c.; Melpom. 37.

Again, "the Saspirians separate *Media* from *Colchis*;" Clio, 104: and in 110, speaking of the mountains that lay to the north of Ecbatana (near the *Euxine*, it is said, but *this* must be a mistake), "this part of *Media* TOWARDS the SASPIRES, is high and mountainous, and abounds with forests; the rest of the country is a spacious plain." And again, Melp. 40, "To the *east*, beyond Persia, Media, the SAPINIANS, and Colchians," &c.

As the mountainous tract just alluded to, is clearly the province of *Matiene*, so the *Saspires* (or whatsoever may be their proper

* The eleventh only, in this arrangement.

† More will be said respecting *Matiene*, in the remarks on the road from Sardis to Susa; in section XIII.; which see. The *Matiene* of Cappadocia has already been discriminated, in the account of the third Satrapy, pages 204, and 239.

name) must occupy the space in the line between *Matiene* and *Colchis*; and, regard being had to the position of the *Caspians'* country; to that of the *Caucasian* provinces, of the *Moschi*, and of *Armenia*; all of which lay beyond it; the Saspires must have extended through the space between the western bank of the river *Cyrus*, and the mountains of *Armenia*; the *Araxes* and its branches passing through it, to the point, where it descends into the plain of *Mogan*, a part of the country of the *Caspians*.

The *Saspires* then, should have occupied in modern geography, the eastern part of *Armenia*.

The *Alarodians*, or third division of this Satrapy, we cannot find any authority for placing; but may suppose their country to be parts of *Iberia*, and *Albania*, bordering on the *Colchians* and *Saspires*: for the *Alarodes* and *Saspires* were joined in one command, and both were dressed like the Colchians; implying neighbourhood and connection. Polym. 79.

The *Colchians* themselves, as well as their neighbours, the *Caucasian* nations, were not classed as belonging to any Satrapy, but imposed a tribute on themselves, in like manner as the *Arabians*, and some other nations; Thalia, 97: and to this mountain of Caucasus, only, according to our Author, "the Persian authority extends. Northward of it, their name inspires no regard." The Colchians, however, attended the army of Xerxes, as *auxiliaries*; together with the *Mares*. *These*, we can only take for *one* of the tribes of Caucasus; auxiliaries also: for of these tribes there were, as in the present times, a great number.*

* The incredible number of tribes and languages, in, and about, mount *Caucasus*, is spoken of, as well by the ancients, as the moderns. See Mr. Tooke's Russia, Vol. ii.; and the Memoir of the Map of the countries between the Euxine and Caspian, published in 1788. This remarkable tract, which forms an *Isthmus* between the *nations* of the *north* and of the *south*, seems to have retained a specimen of each passing tribe, from the date of the earliest migration.

The *Mares*, or *Marians*, might be intended for the *Mardi* of the 19th Satrapy, adjoining to the one in question.

Concerning the *Matienian* troops, we have already spoken, as well as of the confusion arising between the different countries of that name. The troops spoken of in Polym. 72, evidently belonged to the Matiene of Cappadocia.

XIII. " From the 13th Satrapy,* 400 talents were levied. This comprehended *Pactyica*, the *Armenians*, with the *contiguous* nations, *as far as the Euxine*." Thalia, 93.

In the description of Xerxes' army, the *Armenians* are said to be a colony of *Phrygians;* they were armed like *them*, and were subject to the same commander; Polym. 73. We hear of *Pactyans* also, Polym. 67; but they were armed like the *Utii*, *Myci*, and *Paricanii*, who were situated towards the southern sea; and were quite unlike the people of the quarter towards the Euxine and Caucasus. Moreover, the *Sagartii*, who were said to be of Persian descent, and appear to have been seated on the borders of Persia *proper*, were habited somewhat *between* the *Persians* and *Pactyans;* Polym. 85. We should therefore take *these* Pactyans to be the *Bactearis*, seated in the mountains on the west of Ispahan; and the Pactyans of Armenia must be a different people; and are quite unknown to us.

When our Author extends this Satrapy to the Euxine, he appears to contradict himself. For, the nations along the Euxine, from the *Syrians* of *Cappadocia*, to the *Colchians*, and which are shut up on the land side, by the Armenian mountains, are all allotted to the XIXth Satrapy; as will presently appear. And the Colchians themselves, who are not included in any Satrapy, occupy the remainder of the coast, bordering on Armenia; so that no part of this Satrapy can possibly touch on the Euxine.

The Armenia of Herodotus (in Terpsichore 52.), extended westward to the Euphrates, in the quarter towards Cilicia; and southward to mount *Masius* in Mesopotamia; as may be inferred from the same chapter. Northwards it included the sources of the

* The 12th only, in this arrangement.

Euphrates; Clio, 180; and from the position given to the *Saspires*, it should be confined on the east, by the mountains which separate the course of the Araxes, from the eastern sources of the Euphrates; amongst which is mount Ararat. Thus, the Armenia of our Author, has very circumscribed limits, compared with the geography of more modern times; which adds to it, the valley traversed by the Araxes, which Herodotus assigns to the *Saspires*.

From the moderate amount of the sum collected in this Satrapy, there is little reason to suppose, that any considerable proportion of it, arose from the produce of the mines, that are wrought with so much profit, at the present day. The mines alluded to, are those situated in the two branches of mount *Taurus*, that inclose the valley of *Sophene;* through which the Euphrates passes, in its way from Armenia to Syria.* These are two in number, *Kebban*, and *Argana;* and a third, *Arabkir*, is situated on the western, or Cappadocian side, of the Euphrates.

KEBBAN, or *Mâden* Kebban (*Mâden* signifies mine), is situated in the very heart of the northern ridge of Taurus (apparently that intended by *Anti-Taurus*), and impends over the Euphrates, which has here forced itself a passage through the ridge, leaving a vast chasm.† The bed of the river is here about 200 yards in breadth, and very deep. The ARGANA mine is at the front of the southern branch of the same mountains, overlooking the great valley of Diarbekir, through which runs the Tigris.‡ These two mines are about

* Now called the valley of *Karpoot*, from a fortress and town, within it. It lies opposite to the valley of *Malatia* (anciently *Melitena*), of which it is, in fact, a continuation; the Euphrates alone, separating the two vallies.

† The two great branches of the Euphrates from *Erzeroum* and *Bayazid*, form a junction at no great distance *above* Kebban. It is *below* this place, and in its passage *through Taurus*, that the Euphrates forms the rapids which interrupt the navigation to and from, Syria.

‡ This is a more extensive valley than that of *Sophene*, from whence it is divided by the principal ridge of Taurus. Northwards it is bounded by mount *Niphates*, the continuation of the last ridge; southwards by *Masius*, its southern branch. These

70 road miles asunder; and are respectively, 50 and 120 from the city of Diarbekir, to the NW. ARIBKIR is about 20 to the N of Kebban; or 140 from Diarbekir.

The two former of these, were visited by Mr. J. Sullivan in his way through Lower Asia, in 1781; and by M. Otter, in 1739. Mr. Sullivan reports, that they were rich in *gold* and *silver*, and also produced *lead* and *iron*. M. Sestini, who accompanied him, says, that the mine of Argana, yielded *copper*, also; and by the different accounts, taken together, Argana seems to have been the most productive. Mr. Sullivan was told, that the mine of Arabkir had a richer vein of *gold*, than the others.

M. Otter, although he stopt at Aribkir, does not mention the mine; which seems to shew that it was little regarded, at that time. He says that the works at Argana had very much declined; and those at Kebban, still more. Gold and silver, are the only metals, spoken of by him.

Dr. Howel was at Argana and Kebban, in 1788. He says of the former, that the only metals found there, are silver and iron.* He is silent, respecting Kebban.

It may be observed, that Sestini mentions copper at Argana; and no copper is spoken of elsewhere. Since that time, however, the Armenian mines have produced vast abundance of excellent copper, which has been dispersed in all directions, and threatens a revolu-

unite, and shut up the valley on the east. Within it, the numerous heads of the Tigris, are collected into one stream, which forcing its way through mount Masius, forms the *steep cliffs*, which compelled the TEN THOUSAND to quit the bank of the river, in their ascent from the plains of Babylon.

The valley of Diarbekir is about 140 British miles in length, and very wide, forming a great oval; and may not improperly be named, the *hollow Mesopotamia*. It is to be noted, that although some of the ancients reckoned it to Armenia, it is in reality, inclosed between the Euphrates and Tigris.

* *Chalybes*, or workers in iron, are spoken of, amongst the people conquered by Crœsus in Cappadocia. Xenophon, Anab. lib. v. found them at the shore of the Euxine, in Pontus; and here they are found midway between the two seas.

tion in the trade of this valuable article. From Diarbekir, the water carriage is continuous, to the gulf of Persia, either by means of boats, or rafts: but there is no water carriage in any other direction. The Mediterranean is about 10 journies distant, by caravans; the Euxine, rather less.

XIX. "The *Moschi*, *Tibareni*, *Macrones*, *Mosynœci*, and *Mardians*, provided 300 talents, and were the 19th Satrapy." Thalia, 94.*

Xenophon, in his way westward, passed successively through the territories of the Macrones,† the Mosynœcians, Chalybians, and Tibarenians, between the rivers Phasis and Thermodon: and the Moschi were said to be situated between the heads of the Phasis, and the river Cyrus. Hence, the 19th Satrapy of our Author must have extended along the SE coast of the Euxine sea; and was confined on the inland, or southern side, by the lofty chain of Armenian mountains. On the east it was bounded by the heads of the Phasis and Cyrus; and on the west, by the Thermodon. The Tibareni appear to have bordered on the east of the Thermodon, and the Mosynœci, Macrones, and Moschi, to follow in succession, eastward.‡ Hence, it may clearly be perceived, that no part of the Armenian Satrapy, could extend to the Euxine. See above, p. 279.)

This Satrapy is one of the smallest; for the Armenian mountains which rise very suddenly from the north, and form the elevated level from whence the Euphrates, the Araxes, and the Cyrus, spring, are at no great distance from the sea; as may be seen more particularly, by the instructive and entertaining Travels of M. Tournefort. The Satrapy is therefore a narrow stripe, or border of land, forming an intermediate level, between the high country of Armenia, and the Euxine sea; but containing some very hardy and warlike

* The 13th, in the order here placed.

† The Macrones were afterwards called *Sanni*. Strabo, p. 548.

‡ Herodotus, Euterpe, 34, says that the *Macrones*, are *neighbours* to the *Syrians* of *Cappadocia*. But this should rather be said of the *Tibareni*, whom Xenophon found near the river Thermodon.

tribes; as the Ten Thousand experienced, in their troublesome land march from the borders of *Colchis* to *Cotyora.* It is every where intersected by small rivers, the neighbourhood of the mountains to the sea, preventing the waters from collecting into larger streams.

The *Mardi* of this Satrapy cannot be recognized, unless they may be the *Mares*, or *Marians*, who were joined in the same command with the *Colchians;* in Polym. 79. It may be remarked, that there are several tribes of this name: one in particular in the country adjacent to the SW of the Caspian sea; another in the south of Media; and a third near Bactria (Pliny, vi. 16.); apparently in *Gaur.* They were all mountaineers; hardy and warlike: and those at the Caspian occasioned much trouble to Alexander. Perhaps *Mardi* might design such kind of mountaineers, in general; and the Mardi who are joined with the Colchians, might have been the mountaineers adjacent to them.*

The *Moschi* and *Tibareni* (in Polym. 78.), formed one command; the *Macrones* and *Mosynœci*, another: however, it may be seen, that the *two former* were situated at the opposite extremes of the province; and it is therefore more probable that the *Mosynœci* and *Moschi* should change places in the text. All these tribes, save the *Mardi* (if the *Mares* may be taken for them,) were equipped alike: that is, they had helmets of wood, small bucklers, and short spears, with long *iron* points. They lived in a country abounding with *iron;* for Xenophon found, amongst the Mosynœcians, and subject to them, a tribe named *Chalybians.* "These (he says) are few in number, and the greatest part of them subsist by the manufacture of iron;" Anab. lib. v. Iron ore seems to be spread throughout the

* The reader is referred to M. D'Anville's *Antiquité Géographique de l'Inde*, page 96, *et seq.* for some curious observations respecting the term *Mardi-coura*, taken to be equivalent to *cannibal*, or *man-eater;* in India. M. D'Anville quotes Photius, who says as much: and also M. Thevenot, who says that certain people near Baroach, in Guzerat, were formerly named *Mardi-coura*, or man-eaters. See his Indian Travels, chapter iv.

whole tract along the Euphrates, in Cappadocia, Pontus, and Western Armenia.

The city and colony of Trebizonde was situated within this Satrapy: and hence the geography of it was well known to the Greeks. So that when Xenophon gives the names of *Mosynœcians*, *Macrones*, *Chalybes*, &c. in his retreat, it appears that their names, at least, were not new to him, on his arrival amongst them; although such an idea might arise, unless regard is had to these passages, in Herodotus.

XIV. "The 14th Satrapy* consisted of the *Sangatians*,† the *Sarangæans*, the *Thamanæans*, *Utians*, and *Mencians*;‡ with those who inhabit the islands of the *Red* sea, where the king sends those whom he banishes: these jointly contributed 600 talents." Thalia, 93.

Although the *Sarangæans*, by which must be understood the people of *Zarang*, or Sigistan, and the people of the Islands of the *Red* sea, (that is of the *Persian gulf*,§) were included in this Satrapy, yet it is not to be supposed that the *whole intermediate country*, or even any great proportion of it, was included. For, the country of PERSIA PROPER, is out of the question; since it enjoyed the privilege of *exemption* from the arrangement, which is the subject of this inquiry. "They were not compelled to pay any specific taxes, but presented a regular gratuity;" Thalia, 97. It may be conceived that this privilege was extended to all the tribes of Persia

* Here we return again to the progressive numeration of our Author; and also commence the examination of the *eastern* division of the empire; supposing it to be divided by a line drawn from the Caspian sea, to the head of the Persian gulf; when *Media* would form the central province. This division, although much the largest, contains seven Satrapies only.

† Littlebury translates *Sagartians;* 1, 307. If he is right, these should be the *Sagartii* hereafter mentioned.

‡ Littlebury has this variation: *Meci*, for *Menci;* and which seem to be the *Myci* hereafter mentioned with the *Utii*.

§ No other islands could be meant; because none but *these*, could contain a population, sufficient to form a body of troops, equal to a commandery.

proper, which are enumerated by the historian, on occasion of their emancipation by CYRUS, Clio, 125; namely, the *Arteatæ*, *Persæ*, *Pasargadæ*, *Maraphii*, and *Maspians*, who are the principal ones: and the *Panthialæ*,* *Derusiæ*, and *Germanians*, who follow laborious employments; the *Dai*, *Mardi*, *Dropici*, and *Sagartians*, who were feeders of cattle. Of all these, the *Pasargadæ* were the most considerable.

Here the *name* of PASARGADÆ is represented to exist, before the time of Cyrus, and also to belong to a populous tribe. History, moreover, represents, that Cyrus founded a city of the name of *Pasargada*, or *Pasagarda* (for it is written both ways), on occasion of a great victory which he obtained on that spot; and which appears to have established him in his new empire. It must of course, be inferred, that this city was founded in the *province* of *Pasargada:* and as the Persian term *gherd* signifies a district or province (as *Darab-gherd*, which signifies the king's province), it may be supposed that the *garda* or *gada*, is the same with *gherd;* and then *Pasa*, or *Pasar*, will represent the name itself; and *Pasa* or *Fasa*, is actually the name of a town and district of some consideration, in Persia *proper*, at this day.†

The *Persæ* appear also, as one of the principal tribes; and the city of *Persepolis*, although omitted by Herodotus, is spoken of by most of the succeeding writers; but not we believe till after the Macedonian conquest. This we should regard as the capital of the *Persæ*. Some have supposed, that *Persepolis* and *Pasagarda* were names for the same place; but we are strongly of opinion, from the authorities, that they were distinct places (although the discussion

* Littlebury has these variations, *Meraphii*, *Masians*, and *Panthelians*.

† Strabo says (p. 730, 731), that "Cyrus respected *Pasargadæ*, because this was the place where he gained his decisive victory over Astyages the Median, and which gave him the empire of ASIA: and that he built a *city*, and a *palace* for himself, in commemoration of the victory; but removed all the treasure in Persia, to Susa."

would be too long for this place); and conclude that *Chelminar*, was the ancient *Persepolis:* and that *Pasagardæ* was situated more to the south-east; perhaps at *Pasa*, or *Fasa.* At the same time, it is but fair to acknowledge, that we do not know of there being any remains of antiquity, either at Fasa, or any other place, save those of *Estakar*, which is known to have been a Mahomedan foundation, not far from Chelminar; and those of *Nąkshi Rustum* (in the same neighbourhood); which however are regarded as sepulchres only, excavated from the front of a perpendicular rock, or cliff. But it may possibly be, that the remains of Pasagardæ, are not known to Europeans; for we should bear in mind, that the ruins of *Gour*, in Bengal, were unknown to the English and other Europeans, until they had been settled there a very long time; and until the year 1764.*

Herodotus observes, that the Persians originally called themselves, and were called by their neighbours, *Artæi;* Polym. 61. These might be the same with the *Arteatæ* just mentioned; and their country may be expressed by the *Artacene* of Ptolemy, and the *Ardistan* of modern geography; a province situated to the NE of

* In a future work on the geography of Persia, it is intended to give the authorities at large, for the positions of these places. *Persepolis* was no doubt, a name given by the Greeks, to denote the capital of the Persian empire; and, according to the expression of Justin, lib. i. c. 6, it should have existed before the revolt of the the Persians from the Medes, in the time of Cyrus. What Strabo says respecting Persepolis and Pasagardæ, in pages 729, 730, proves most clearly that he believed them to be distinct places: and it is equally certain, that, the description of the sepulchre of Cyrus, both in Strabo and Arrian, does not suit either those of *Chelminar*, or *Nakshi Rustum.* For it was in a garden, in the midst of a thick grove of trees; and rose like a tower from the ground. It was also of small dimensions; for its basis was composed of a *single stone.* (See Strabo, p. 730; and Arrian, lib. vii. at the end.) Now the sepulchres at Nakshi Rustum are (as we have said) *excavated* from the *front* of a steep high rock, or cliff, and could not be surrounded by a grove: and those at Chelminar have a very broad base, more like a pyramid than a tower. So that there is no one point of resemblance.

Ispahan. The *Maraphi* may be the same with the *Marrasium* of Ptolemy, situated to the NE of Persepolis.* The *Maspians* (or *Masians*), the remaining principal tribe, we cannot place.

Of the inferior tribes, we agree with others, in believing that the *Germanians* are intended for the people of that part of Carmania, bordering on Persia: and which was by the ancients sometimes confounded with it. The *Dai*, a pastoral people, of Persia, were very probably a tribe of *Dahæ*; as these were much scattered about: and even appear to have served in the army of Eumenes, as soldiers of fortune. The *Mardi* were a tribe of mountaineers, lying between Media and Persia, on whom Alexander warred, at his first coming into Persia,† and before his expedition to the Caspian provinces; where he met with another tribe of the same name.‡ The *Sagartians*, a pastoral people, are also mentioned in the army of Xerxes; Polym. 85.; and formed a body of 8000 cavalry. Herodotus says that originally they were of Persian descent, and used the Persian language: and that their dress was between *Persian* and *Pactyan*. They are marked by a very singular mode of attack: that is, by throwing out a *noose* of leather, or hide, by which they endeavoured to entangle the enemy, or their horses. Their weapons were *daggers* only: with which, having entangled their enemy, they easily put him to death. Could we trace out such a modern custom in Asia, it might lead to a discovery of the descendants of the *Sagartii*. The same mode prevails amongst the native tribes in some parts of South America. It savours very much of uncivilized life: and as the *Sagartii* are said to have been a pastoral people, they were probably much on a par with the *Tartar tribes*, dispersed at present over Persia, at large. If the term *Zagatai* was so ancient, and one could suppose a mistake in the report of the origin of the *Sagartii*, one might suspect that *Zagati* were meant. This tribe is at present dispersed over the north-eastern quarter of Persia; they are of Scythian, or Tartar, origin, and were long settled in *Sogdia*, which at

* Asia, Tab. v. † Strabo, p. 524. ‡ See above, page 283.

one time took the name of *Zagatai.** As to the other tribes of *Panthialæ*, *Derusiæ*, and *Dropici*, we can find no traces of them.

If it be admitted that ALL the tribes of *proper* Persia, mentioned on occasion of the revolt of CYRUS, were exempted from tribute; which means also, that they were not classed in any Satrapy: it will be required that we should include, in the same exemption with Persia, a part of Carmania, and the provinces of Lar and Sirjan; in which case, the 14th Satrapy, a tract that supplied 600 talents, annually, must be looked for, elsewhere.

From the extent, fertility, and general riches of the province of the *Sarangæans*, (the people of *Zarang*, or *Sigistan*,†) it might be expected that this alone furnished a considerable proportion of the 600 talents, since so confined a country as *Susiana*, paid 300.‡ For Sigistan, as we have said before, page 196, is a rich *alluvial* tract, situated *inland;* it being a vast hollow, surrounded by hills and mountains; so that its rivers have from time immemorial, deposited in it, the earth brought from the surrounding country, and formed a rich soil like that of Egypt and Bengal. And although the rivers terminate finally in a lake, yet much more of their depositions must remain on the land, than if, like the *Nile* and *Ganges*, they disembogued their waters into the sea.

The *Sarangæans* in Xerxes' army, Polym. 67, "had beautiful

* Some have supposed that *Zagatai*, the second son of JINGHIS KAN *gave* his name *to* the country of *Mawur-al-Nahr;* but it appears more probable that he *received* his name *from* it. His portion of the empire of Jinghis, extended from *Balk* to *Oigur*.

† The present name, *Sigistan*, seems to be derived from *Sacastana*, as it is found in Isidore of Charax; and which last is doubtless derived from the *Sacæ;* who, according to the same authority, possessed the province in question. This, of course, was subsequent to the Macedonian conquest. It should be remembered, that *Sacæ* was, amongst the Persians, a general term for *Scythians*.

Isidore places Sacastana to the south of Bactria and Paropamisus. (See Hudson's Min. Geog. Vol. ii.)

‡ Sigistan is much more than double the area of Susiana.

habits of *different* and *splendid* colours; buskins reaching to their knees, bows and javelines, like the Medes." Some of these particulars characterize a civilized, rich, and industrious people. In effect, they were the *Euergetæ* of the Greeks, whose bounty to *Cyrus*, proved the fertility and wealth of the country, as well as the generous dispositions of the natives of it.

Diodorus thus relates the transaction; lib. xvii. c. 8. "Cyrus, during a certain expedition which he had undertaken, was brought into great extremity, in a barren country, through the want of provisions. The *Euergetæ* (before named *Arimaspi**) brought to his army 30,000 carriages laden with provisions. Cyrus being thus unexpectedly relieved, not only declared them free of tribute, for the future, but bestowed on them other privileges, and changed their former name into *Euergetæ*." †

It is not known on what particular occasion this circumstance happened; but it appears, from the Persian histories, that, during the time of RUSTUM, who is supposed to be the general of Cyrus, the Empire of Persia was attacked by the king of TURKESTAN (that is, by the SCYTHIANS on the NE frontier). This seems to have given occasion to the establishment of the capital of Persia, at Balk (*Bactria*); and of Rustum, in the *fief* of Sigistan, or *Zarang*. ‡ It also appears, from Herodotus, that Cyrus undertook in person, an expedition against the *Scythians* and other nations in the east; and more particularly the *Sacæ* and *Bactrians*, § in which he was completely successful; at least in respect of its final termination. But never-

* Arrian and Curtius call them *Agriaspæ*; Pliny, *Argetæ*; Ptolemy has *Ariaspæ*.

† Or rather, we may presume, some name which had the same meaning in the Persian language.

‡ Memorials of RUSTUM still existed in Sigistan, at the end of the 14th century. In particular, a remarkable *Dam* or *Dyke*, denominated from him; and which, the historian of Tamerlane relates, was destroyed by his army. (Sherefeddin, lib. ii. c. 45.)

§ More of this subject will be found under the head of *Saca*.

theless he might have encountered many difficulties in the execution of the enterprize.

Zarang lies midway between Persia and the Sacæ: and is separated from the former by a very extensive desert, which is noted in the journals of our early travellers, between Kandahar and Ispahan. It might possibly have been in crossing this desert, that Cyrus' army was distressed for provisions, and where the supply from the Zarangæans so opportunely came. There are, indeed, extensive deserts also *beyond* Zarang, in the way to *Sogdia*, and the *Jaxartes:* but they are too far removed from Zarang, to render it probable that the relief was sent thither.

The *Thamanæans*, we cannot place. In Thalia, 117, they are mentioned with the *Sarangæans*, *Chorasmians*, *Parthians*, and *Hyrcanians*, as inhabiting the hills around the great plain, through which the river *Aces* flows; and concerning which we have given our opinion in page 195. There is, probably, some confusion between the *Hindmend*, the river of Sigistan; and that of *Ochus*, in *Aria;* since the above nations are not so situated, as to *encircle* any *plain* of the kind there mentioned. But, it is probable, that the Thamanæans may nevertheless have joined to the Sarangæans, although we cannot assign them their place.

If the *Sangatians* be not the *Sagartii*,* we labour under the same difficulty respecting them; and no less with regard to the *Utians* and *Mencians*, (or *Mecians*).

The *Utii*, *Myci*, and *Paricanii*, were armed like the Pactyes; Polym. 68; and were commanded by a son of Darius. It has appeared that the dress of the *Sagartii* partook of the *Pactyan* also; whence the latter should have been a people of some note; and doubtless neighbours to those who imitated them. In page 279, we have taken them for the *Bactearis*, a people inhabiting the mountains, opposite to, and on the SW of, Ispahan: and we therefore are led to con-

* The *Sangatians*, as we have seen, are called *Sagartians*, by Littlebury.

sider the *Utii* as the *Uxians*, which adjoined to the *Bactearis* on the SW, and are famous in the march of Alexander, from Babylon towards Susa.* The *Paricanii* (of Media) taken, in page 270, to be the *Paredoni* of Pliny, who held the Caspian Straits, are situated in the eastern quarter of Media; and were so far connected with the *Utii* and *Myci*, as to use similar weapons, and to be joined in the same command with them. These, then, were of course neighbours to the *Uxians*, as well as to the *Sagartii*, who, as we have just seen, imitated the dress of the *Pactyes;* whom the *Uxians* copied, in point of weapons. Thus, it appears not improbable, that the *Utii* or *Utians*, may be the *Uxians:* and the *Myci* may be from the above connection, neighbours to them.†

In effect, then, the 14th Satrapy must be regarded as comprizing Sigistan, together with such parts of the country between it and the Persian Gulf, as were not exempted from tribute by Darius. We conceive *Carmania*, in general, to belong to this Satrapy, as well as the country of *Lar*, bordering on the Gulf of Persia; with several lesser tracts towards Media and Susiana. The islands of the gulf also, which are many in number, although none of them are of great extent, save Kishmah, were specifically included: and as they sent a body of troops equal to a whole command, Polym. 80; no other than the Persian Gulf could be intended by the *Red* sea, in this place; for the islands of the ocean are too few, too inconsiderable, and too remote, to answer to the description. But our author appears not to have known that the sea formed a gulf in that part, as we have shewn in page 197. On the whole, it must be admitted that the 14th Satrapy is very ill defined; Sigistan, and these islands being almost the only parts that can be depended on. But we cannot help regarding the circumstance of the *islands*, as affording a kind of proof, that a considerable part of the opposite continent, belonged to the same divi-

* The *Bactearis* are no less distinguished in the warfare of Nadir Shah, in Persia.

† Pliny places the *Maci* near mount *Caucasus* of *Bactriana:* lib. vi. c. 23.

sion: since the *islands* and *Sigistan*, mark the two *extremities* on the NE and SW; as *Uxia* and *Carmania*, on the NW and SE.*

Herodotus places the Persians at the head of the list, in Xerxes' army: (Polm. 61.) and says that they surpassed all the rest, not only in magnificence, but in valour; 83. They appear to have enjoyed indulgences beyond the rest of the army; and may, perhaps, not inaptly be compared, in respect of the rest, with the Europeans in a British army in India, composed chiefly of Sepoys, or native troops. They had with them carriages for the women, and a vast number of attendants: as also camels and beasts of burthen to carry their provisions; besides those for the common occasions of the army.† With respect to their dress, this was also in a superior style: they wore small helmets which they called *tiarae;* their bodies were covered with tunics of different colours, having sleeves; and adorned with plates of steel in imitation of the scales of fishes: their thighs were defended, and they carried a kind of shield called *Gerra*, beneath which was a quiver. They had short spears, large bows, and arrows

* There is much curious history belonging to these islands, which are scattered throughout the whole length of the Persian Gulf; and are in general, nearest to the Persian shore. In effect, they have at times, contained the commercial establishments of the Phœnicians, and also of the European nations. But what is more gratifying to the mind, is, that they have in modern times, afforded asylums to the inhabitants of the maritime towns on the continent, when invaded, or oppressed; and so regular has this system of taking refuge been, that some of the islands have their names from the opposite towns on the continent. In particular, the inhabitants of the continental *Ormus* (or *Hormus*), passed over into the island of that name (the Organa of Nearchus), on the irruption of the Tartars, in the 13th century. None can feel the importance of *insular* situations, to the cause of liberty, more than ENGLISHMEN; especially at this time. The Tartars had no fleets to pursue the fugitives to the islands; but the king of Persia, who possessed ships, made use of the islands as places of banishment.

† The Greek auxiliaries in the army of the younger Cyrus, appear to have had much the same privileges; and approach still nearer, in this respect, to the European troops, that form a part of the armies employed by the European states, in India.

made of reeds; and on their right side a dagger suspended from a belt. Polym. 61. And, in 83, he says, that their armour was remarkable for the quantity of gold which adorned it. They were commanded by *Otanes*, the father-in-law of Xerxes.

That body of Persian infantry called the *Immortals*, consisted of 10,000; clothed and armed like the rest.*

XVI. "Three hundred talents were levied from the *Parthians*, *Choasmians*, *Sogdians*, and *Arians*; who constituted the 16th Satrapy."† Thalia, 93.

All these nations, (as well as the *Gandarii* or *Gardarii*,‡ who formed a part of the 7th Satrapy) appeared *generally* in the same arms and clothing as the *Bactrians*.§ Polym. 64, 65, 66: that is, they had bows made of *reeds (Bamboos)*, and short spears. Their head-dress was the same with that of the Persians and Medes, that is, "small helmets, which they call *Tiarae*;" 61. So that, as has been remarked in page 275, all the nations situated to the east and north of Media, and of which tract, the continuation of Taurus and Caucasus seems to form the southern boundary, have so many points of resemblance to each other, as to shew that they had a common origin; that is, doubtless from SCYTHIA.

The provinces above enumerated in this Satrapy, are all contiguous, and form one of the largest of those divisions. Little explanation is necessary to the geography of it: and the principal difficulty arises from the defect of information, respecting the extent of the 7th Satrapy, which was surrounded on *three* sides, by the one under discussion; as if *extracted* from it. There can be no doubt,

* See Polym. 83. for the reason of their being so named.

† The 15th in the order here given.

‡ Called *Gandarii* in the Satrapy, but *Gardarii* in the list of the army.

§ The *Arii*, although included in the same Satrapy, or government, with the other provinces beyond the continuation of *Caucasus*, had *bows* like the Medes; that is, large and long; but were otherwise like the Bactrians, to whose country they joined.

that by *Sogdia*, is meant the country of *Soghd*, or Samarcand, situated between the Oxus and Jaxartes; excluding *Kotlan*, *Saganian*, and *Kilan*, as parts of the *Sacan*, or *Bactrian*, Satrapies. *Chorasmia* must be taken for *Khowarezm*, at large: and *Aria* for Herat; which is sometimes written without the *aspirate*, at this time.

As to *Parthia*, the subject is not so clear, because its limits were perpetually varying, from the date of the dynasty of the *Arsacidæ*, who first extinguished the power of the *Seleucidæ* in the East; and then gradually erected the celebrated and powerful empire, that bore the name of PARTHIAN.

By the Parthia of Herodotus must undoubtedly be meant their *original* country, previous to its extension, by conquest. Many of the latter geographers and historians formed their ideas of it, *after* its extension; and therefore do not agree amongst themselves.

We have extracted, in a note,* the principal authorities for the position of the *original* seats of the Parthians, after they settled in IRAN, or Persia; and these appear to have been placed between Chorasmia, Margiana, Aria, and the Caspian provinces: that is, they possessed the hilly tract on the north of *Naisabour*. To this, they must afterwards have added *Kumis* (the *Comisene* of Ptolemy, *Camisene* of Strabo), as it was called PARTHIA in the time of

* Justin says that the Parthians were *Scythian exiles*, who possessed themselves of places, *between Hyrcania*, the *Dahæ*, *Arii*, *Spartans* (read *Aparytæ* from Herodotus, Thalia, 91.), and *Margianians*; lib. xli. c. 1. Strabo (511) places PARTHIA between *Margiana* and *Aria*: and, in 514, says, that being originally of no great extent, it was increased, in after times, by the addition of *Camisene*, *Chorene*, and other districts (formerly belonging to Media), as far as the Caspian gates. In 509, he says that the river *Ochus* flows near Parthia: this is the river that passes by *Nesa* and *Bawerd*. Pliny, vi. 25, places Parthia between *Media* and *Aria*; *Carmania* and *Hyrcania*: and as he extends *Hyrcania* eastward to *Margiana*, it is certain that *his* Parthia agrees with that of Ptolemy. See his Asia, Tab. v. Moreover he says, that *Hecatompylos*, the capital of Parthia, lies in the middle part of it; and is only 133 MP. beyond the Caspian gates: lib. vi. c. 25, and 15.

Alexander, who crossed it in the line between *Mazanderan* and *Bactria*: and *Hecatompylos*, supposed to be near the site of *Damgan*, was the capital of Parthia, visited by Alexander. So that Parthia may be supposed to have included the province of *Naisabour* likewise, as it lay between their first possessions and Kumis: and Parthia *at large*, extended from the *Caspian strait* to *Chorasmia;* and from the mountains that confine the Caspian provinces, to *Aria*, and *Margiana*. But the present question is, what were the possessions of the Parthians, of the days of Herodotus? We conceive the answer is to be collected from the words of Strabo and Justin: and that the *original Parthia* of *Herodotus*, was nothing more than the mountainous tract between *Hyrcania*, *Margiana*, *Aria*, and the desert of *Chorasmia*.

The *Parthians* and *Chorasmians* were joined in one command, a presumptive proof of contiguity, or at least of vicinity: the *Arii* and *Sogdii* formed separate commands. Polym. 65, 66.

VII. "The seventh Satrapy was composed of the *Satgagydæ*,* the *Gandarii*, the *Dadicæ*, and *Aparytæ*, who together paid 170 talents."†

It has been said above, that this Satrapy was surrounded on three sides by the 16th; for it appears to have been composed of *Margiana* and some adjacent districts: and that it was bounded on the south, by *Aria;* west, by *Parthia;* north, by *Chorasmia*, and *Sogdia;* and on the east by *Bactriana*, which formed the 12th Satrapy. The name of *Margiana* was not known to Herodotus; and was probably bestowed by the Greeks, from the river *Margus* (or rather *Marg-ab*), which flowed through it. However, the particulars of this division, are by no means clearly made out; and we shall assign our reasons for the above arrangement.

In Isidore of Charax, there are found, *Gadar*, and *Aparbartica*, between *Nisæ*, taken for *Naisabour;* and *Antiochia* of *Margiana*,

* *Sattagydians*, in Littlebury, Vol. i. 306,

† This is the 16th division according to our arrangement.

taken for *Meru:* and these we regard as the seats of the *Gandarii* and *Aparytæ* of our Author; more especially as the former are called *Gardarii* in another place; that is, in Polym. 66.

Again, Isidore mentions *Siroc* and *Safri*, as places between *Gadar* and *Apabartica;* and these are recognized in the well known city of *Seraks*, and in the village of *Jaferi;* places about midway between *Naisabour* and *Meru:* whilst *Gandar*, or *Gadar*, appears yet more satisfactorily, in *Caendar*, a place of importance in the same quarter; as we learn from the history of Jinghis Kan. To these notices may be added, that, in Pliny, vi. c. 16, the *Gandarii* are mentioned with the *Chorasmii*, *Attasini*, and *Sarangæ*. Now, Caendar lies on the frontiers of Khowarezm, and has a place of some note near it, named *Tedjen*, or *Tedzen*, which may perhaps be intended by *Attasin*.*

The *Dadicæ* being joined in one command with the *Gandarii* or *Gardarii* (for they seem to mean the same people), in Polym. 66, were probably their neighbours, although we cannot find out their situation. They wore moreover the same armour with the *Bactrians*, *Chorasmians*, and *Sogdians;* by whom we may conceive they were surrounded.

No name like the *Satgagydæ* (or *Sattagydæ*, as Littlebury calls them, Vol. i. 306), can be found: and the *Isatichæ*, or people of *Yezd*, the only one in which any resemblance can be traced, were in the province of *Persia proper*, or on its borders: too far removed to answer the description.

From these scanty notices, it can only be supposed that the seventh Satrapy of Herodotus was made up of the province of *Margiana*, and some tracts adjoining to it on the west: and that it had for its boundaries on the south, the ridge of mountains that separates it from *Aria:* on the west the countries of *Baverd*, *Toos*, &c. the original seats of the *Parthians;* on the north the desert towards the *Oxus;* and on the east, *Bactria*. In effect, that it was

* *Kondor* in Abulfeda's *Chorasan*.

surrounded on three sides by the 16th Satrapy, and on the fourth by the 12th Satrapy.

XII. "The 12th Satrapy* produced 360 talents, and was composed of the whole country, from the *Bactrians* to *Ægloss*."† Thalia, 92.

The Bactrians are said, Polym. 64, to have most resembled the *Medes*, in the covering of their heads; and to have used bows made of *reeds (bamboos)*, and short spears. There were Bactrian *cavalry*, as well as *infantry*; Thalia, 86.

No rule is given by which we can form an idea of the extent of this Satrapy; unless the modern province of *Balk* and its dependencies, are taken for the country of the *Bactrians*, at large. There is indeed, little question but that the present *city* of Balk, is the *Bactra* or *Bactria* of the ancients; but whether the modern *province*, may answer to the ancient one, cannot be known. It seems probable, however, that as *Bactiar* ‡ signified the east, *Bactriana* might contain all the tract, classed by the Oriental geographers, as belonging to the province of Balk; which literally comprizes the *eastern* extremity of the modern empire of Persia.§

But *Æglos* is an unknown position, and may lie either towards *India*, or *Aria*; or towards the *Sarangæ*, or the *Sacæ*. It is unlikely that *Bactria* included any of the *Indian* provinces, on the west of the Indus; since India was a *very extensive* Satrapy, and yet did not extend very far into India *proper*: so that nothing can be spared on the Persian side. Kandahar, therefore, as well as Kabul, was no

* The 17th, in our arrangement.

† *Æglans;* Littlebury, Vol. i. p. 306.

‡ D'Herbelot, article *Bakhter*.

§ *Bactra* or *Bactria*, was a place of banishment, in the time of Darius Hystaspes: perhaps as being the most *remote* province from Susa. The Iönians were *threatened* with captivity in Bactra; Erato, 9: and Herodotus says, "The *Barcean* captives were carried to Darius, who assigned them for their residence, a portion of land in the Bactrian district, to which they gave the name of *Barce*: this has within my time contained a great number of inhabitants." Melpomone, 204.

doubt a part of the Indian Satrapy; whose revenue so much surpassed any of the others. Again, *Saranga (Sigistan), Aria, Margiana, Sogdia*, are appropriated: and there is reason to conclude that *Kotlan, Saganian, Vashgherd*, &c. situated on the north of the *Oxus*, were in the hands of the *Sacæ*, whose country, together with that of the *Caspii* (or rather *Casii*), formed a separate Satrapy: for Alexander's expedition amongst the *Sacæ*, seems to have been into *Kotlan* and *Saganian*.

The mountainous and extensive province of *Gaur*, which lies on the SW of Balk; and between *it*, the *Indian* provinces, *Saranga*, and *Aria;* was most probably classed with Bactria: but however strong the *probability*, there is no kind of *certainty* respecting it. (But whether or not, we do not consider *this* as the *Æglos* intended by our Author.) Whether Herodotus had this country in contemplation at all, is a great doubt, as his descriptions are more and more deficient, and dark, as he advances eastward from the centre of *Persia*. Pliny however, seems evidently to have intended *Gaur* by the country of the *Mardi*, (vi. 16.) which, he says, extended to *Bactria*. It has already been observed, that the term *Mardi*, was always applied to savage mountaineers; and no country is better suited to this description, than Gaur; which is environed by craggy and lofty mountains; and is, in a degree, sequestered from the surrounding countries, by this barrier.*

According to our Author's context, one might conclude that the countries of *Bactriana*, and *Æglos*, formed the *opposite extremes* of this Satrapy. Bactriana, then, taken as above, for the Balk province, may be conceived to form the *western* quarter of this Satrapy; and by the same rule, we ought to look for Æglos in the *eastern* quarter. Now the most remote eastern province of Balk is *Kil, Gil*, or *Kilan;* may not this be the *Kilos*, *Ekilos*, or *Æglos* of our Author?

* See above, page 283.

XV. "The *Sacæ* and *Caspii* formed the 15th Satrapy; and provided 250 talents." Thalia, 93.*

As the subject of the SACÆ has been already discussed, at large, in the account of *Eastern* Scythia; and that tribe of them subject to Persia, placed in the eastern quarter of *Sogdiana*, between the upper parts of the rivers *Oxus* and *Jaxartes;* it will be unnecessary to say more in this place, concerning their *geographical position*, than that they possessed the countries of *Kotlan* and *Saganian*, which were adjacent to *Bactriana*, *Sogdia*, and mount *Imaus*.

The *Sacæ*, Polym. 64, were joined in the same command with the Bactrians, their neighbours: "Bactria amongst the *Sacæ*," says our Author, in Calliope, 113. They were not only a very warlike tribe, but must have been very powerful also; since it is said of Cyrus, after the reduction of *Lydia*, that he held the IÖNIANS in trifling estimation, compared with what he expected in his views upon *Babylon*, and the *Bactrians;* and was prepared also for *more serious resistance* from the SACIANS and *Egyptians;* wherefore he resolved to take the command in these expeditions, himself, and to entrust one of his officers with the conduct of the *Iönian* war;" Clio, 153. It is probable, therefore, that the Sacæ were at this time making inroads on the eastern frontier of Persia, and had established themselves in the countries just mentioned; and probably in Bactriana also.†

It appears also, Clio, 177, that Cyrus pursued his conquests in the east, previous to the reduction of Babylon; it being no doubt of more importance to check the spirit, and the progress of the Scythians, than to undertake new conquests in Babylonia; from whence his kingdom might receive no annoyance in the mean time. It is said then, that "whilst Harpagus was engaged in the conquest of

* The 18th, in this arrangement.

† In after times, as we have seen, they had a principal share in overthrowing the Macedonian empire in *Bactriana* (Strabo, 511); and made extensive conquests in *Armenia*, also.

LOWER ASIA, (that is *Asia Minor*, &c.) Cyrus himself conducted an army against the UPPER REGIONS; of *every part* of which, he became master.* The particulars of his victories I shall omit (says the historian); expatiating only upon those, which are more memorable in themselves; and which Cyrus found the most difficult to accomplish. When he had reduced the *whole of the continent*, he commenced his march against the Assyrians."† Clio, 177.

It may be supposed then, that the *Sacæ*, as well as the *Bactrians* and other adjoining nations, were conquered in the course of this expedition; and that, from the expression of the historian, with less difficulty than Cyrus had expected. By the arrangement of the Satrapies, the Sacæ must have been in the condition of subjects, at the accession of Darius Hystaspes; (see also, Polymnia, 9). So that, from circumstances, they could only have been reduced by Cyrus: and *Sogdia* must have been in the possession of Cyrus, at the date of his expedition against the *Massagetæ*, which cost him his life; as well from the history of the expedition itself, as from the arrangement of the Satrapies; and also from the strong circumstance of his having founded a city, at the passage of the Jaxartes; which city, *(Cyropolis* or *Cyreschata,)* was particularly regarded by Alexander.‡

It was also during his *Sacan* expedition, either outward, or homeward, that the people of *Sigistan*, or *Zarang*, gave such material aid to the army of Cyrus, as to obtain the title of *Euergetæ*. See above, page 289.

It may be remarked, that Justin either was not informed of, or thought unworthy of notice, this conquest of the Sacæ: unless, indeed, he includes them in the Scythians, *generally*. He says, lib. i. c. 8, that " Cyrus having reduced *Asia*, and the *East in general*;

* By the *upper regions* may be understood the *eastern*, or towards the sun-rising.

† The conquest of Egypt was left to Cambyses.

‡ According to Justin, lib. xii. c. 4, Cyrus built three cities near the *Tanais (Jaxartes)*. Arrian also speaks of the city of *Cyropolis*, founded by Cyrus, and which Alexander took possession of: lib. iv.

carried war into *Scythia:*" meaning, certainly, the country assigned by Herodotus to the *Massagetæ*.

The Sacæ were a very distinguished nation in the army of Xerxes, both by *sea* and *land.** It has been remarked, that there were detachments of them, together with Persians and Medes (who were reckoned the best troops) on board the ships of war; apparently in the nature of *marines;* Polym. 96. The preference given to the *Sacæ*, was probably for their superior skill in archery; the Scythians in general being celebrated on the score of archery.† The use of such a missile weapon as an arrow in a sea-fight, in skilful hands, must have been of great advantage; especially as the Greeks neglected the use of it: for it is remarked that, at the battle of *Marathon* the Athenians were destitute both of *archers* and *cavalry;* Erato, 112. Xenophon found a vast difficulty, early in the retreat, through the want of cavalry and of people who threw missile weapons; and which being easily removed, by embodying the Rhodian slingers, the army was saved. Anab. lib. iii.

The *Sacæ* rendered the greatest services to the Persians in the battle of Marathon, Erato, 113: and at the battle of Platæ, as cavalry, Calliope, 71. They had helmets terminating in a *point*, and wore *breeches;* which article of dress seems to have been peculiar to them amongst all this army, and may have been an additional reason for employing them on ship-board; where such a dress

* Mardonius chose the *Sacæ*, *Medes*, *Bactrians*, and *Indians*, amongst the troops that were to form his army in Thessaly. Urania, 113.

† We are told that the *Medes* learnt from Scythian masters, to improve in their management of the bow; Clio, 73. Hercules also is fabled to have learnt that art from the Scythians, who were great hunters. The Sacæ were distinguished (no doubt from their superior dexterity as archers) at *Marathon*, and *Platæ*. See Calliope, 61, and 72.

The Athenians are said to have had at one period, Scythians amongst their troops. Belisarius had Massagetæ in the African army. (Procopius.)

would have its convenience.* They were armed with *bows*, *daggers*, and a *hatchet* called *sagaris*.

Concerning this last weapon, authors are not agreed. It appears that it was in use, not only with the *Sacæ*, but with the Persians also; and yet it seems to have been regarded as a singular kind of weapon. In the Anabasis, lib. iv. a Persian prisoner, belonging to the army of Teribazus, in Armenia, had a Persian bow and quiver, together with a *sagaris;* which Spelman translates an *Amazonian battle-axe*. Suidas doubts whether it was of the *sword*, or of the *hatchet* kind: but Montfaucon calls it a battle-axe with two edges. Littlebury translates it *bill;* and it is certain, that in Thibet and Bootan, there is a large sword of the *billhook* form, which the Author has himself seen: and Thibet is a part of the same region with *Sakita*, the proper country of the *Sacæ* in question.†

The *Caspii* or *Caspians*, joined with the *Sacæ*, may with more probability be the *Casians*, or people of *Casia*, in Ptolemy; that is, *Kashgur;* which country borders on that of the *Sacæ*, or *Sakitæ*. The Caspian sea is quite out of the question; for the Massagetæ lay between the *Sacæ* and the (*Aral*, regarded as a part of the) Caspian: and moreover the Caspians have been already placed, in the 11th Satrapy, at the coast of that sea.

XVII. "The *Paricanii* and *Ethiopians* of Asia paid 400 talents, and formed the 17th Satrapy." Thalia, 94.‡

* Aristagoras remarks, Terp. 49, in order to sink the military character of the Persians, in comparison with the Greeks, that, they go to battle "armed only with a bow and *short* spear; that their *robes were long;* that they suffered their hair to grow; and would afford an easy conquest."

† Weapons of the kind here spoken of, appear to have been in use in several countries; perhaps, because they answer the purpose of a hatchet to cut wood, as well as a weapon of war: and it might have been contrived to answer both purposes, without any great sacrifice of the qualities proper to either. In the Toxaris of Lucian, a wound is inflicted with a *hooked* sword.

‡ The 19th in this arrangement.

The *Paricanii* of Media have been suppposed, page 270, to be intended for those whom other ancient authors call *Parataceni*. The people of that name under consideration, we refer to the country of *Gedrosia; i. e. Kedge* or *Makran*, in the modern geography: considering the town of *Fahraj* or *Paraj*, as the *Poorah* of the historians of Alexander; to which that conqueror came, after surmounting the dangers and hardships of the Gedrosian desert: and this *Poorah* we regard as the seat or capital of the *Paricanii*, who are classed in the same Satrapy with the *Ethiopians of Asia*.

Herodotus takes some pains to discriminate *these* Ethiopians from *those* of Africa, or from *above Egypt;* Polym. 69: for he says, (70), "Those Ethiopians who came from the *more eastern* parts of their country (for there were two distinct bodies in this expedition) served with the *Indians*. These differed from the former, in nothing but their language, and their hair. The Oriental Ethiopians have their hair straight; those of Africa have their hair more crisp and curling than any other men. The armour of the *Asiatic* Ethiopians resembled that of the Indians, but on their heads they wore the skins of horses' heads, on which the manes and ears were left. The manes served as plumes, and the ears remained stiff and erect."

In these Ethiopians, we are of course to look for a race of men *blacker* than the rest of western Asia, and yet situated within *Persia;* for India formed a distinct Satrapy. And how well soever the description of *black* complexion, and *straight* hair, may agree with the people of the peninsula of India, these are out of the question; because it is expressly said, that the southern black people were independent of Persia. Of course they can only be looked for, in the south-east angle of Persia towards India. Being formed in one joint command with the Indians, this circumstance strengthens the idea of their being neighbours; and we must therefore regard the Ethiopians of Asia as the people of *Makran*, *Haur*,* and other provinces

* The *Oritæ* of Alexander and Nearchus.

in that quarter; for these were bordered by Indian provinces, on the north, as well as on the east.

The *Parycanians*, or people of *Poorab*, as we have supposed them, appear to be the body of cavalry mentioned in Polym. 86, but without any particular description, that might lead to identify them with the *Barcanii* of Curtius, (lib. iii. c. 2.) These last, formed a part of the army of Darius against Alexander; and consisted of 2000 horse and 10,000 foot. They, however, might have been the *Parycanii* of Media (or *Parataceni*).

M. D'Anville (Geog. Ancien. Vol. ii. page 295.) places the *Barcanii* at *Balkan*, at the east side of the Caspian sea, and near the ancient mouth of the Oxus. This he may have done on the authority of Stephanus, who (as Cellarius quotes him, Vol. ii. 504), says, that "the Barcanii were situated at the extremity of *Hyrcania*;" which is indeed the situation of Balkan: but then this place forms a part of *Chorasmia*, which is itself included in the 16th Satrapy. And moreover, the strength of the body of troops, 12,000 in number, appears too great for the district of Balkan alone; and, it must be recollected, that in the arrangement of the Satrapies, the *Paricanii* are classed with the *Ethiopians* of *Asia*; which latter, in the list of the army, were joined in the same command with the *Indians*.

We are, however, very far from being tenacious of the above opinion, respecting the geographical situation of *these* Parycanii: being by no means satisfied with the notices, on which the boundaries of the Satrapy under discussion, are founded. It has been remarked before, that our Author's ideas were more and more circumscribed, as he extended his views and descriptions, eastward: and on the whole, it can only be concluded generally, that the Satrapy in question, extended from the entrance of the Persian Gulf, on the west, to the borders of India, on the east; and from the Erythræan sea on the south, to *Saranga* and *Arachosia* on the north.

XX. and last Satrapy. "The *Indians*, the most numerous nation of whom we have any knowledge, were proportionally taxed; they

formed the 20th Satrapy, and furnished 600 talents in *golden* ingots." Thalia, 94.

How much of India Darius possessed, is not known; but the tribute of it, if rightly stated, was immense. By Herodotus's description it might be concluded, that the king possessed little beyond the Indus, save the *Panjab*, *Sindi*, and the country along the Indus, generally; in addition to all the Indian provinces situated on the Persian side, and which were indeed very extensive: that is to say, Kabul, Kandahar, and that wide stripe of country along the Indus, to the sea. But all these, collectively, could never produce so vast a sum as 600 talents in gold, each of which were reckoned equal to 13 of silver. (Thalia, 95).

It appears, in fact, from our Author's own statement, that the number 600 is a mistake. For, as he gives in Thalia 95, the number of talents of silver that were equivalent to that portion of the tribute that was paid in gold, at 4680 (that is, at the rate of 13 to one), no more than 360, instead of 600, should be reckoned; since this last number, multiplied by 13, produces, of course, 7800. So that we must lessen the Indian tribute, in the proportion of $\frac{4}{10}$ of the whole; but it is yet too large, out of all proportion; it being $4\frac{1}{2}$ times as much as *Babylonia* and *Assyria*, which formed one of the richest of the Satrapies.

That the tribute was paid in gold, appears very probable; for we learn from the *Ayin Acbaree*, that the rivers which descend from the northern mountains, in the west of India, yielded much gold. Herodotus knew this also: Thalia, 106: and so did Curtius. It was the only instance in which gold was paid: and this is one, out of a great many instances, in which our Author is right; when, to a common observer, he might appear the least so.

It is said, Polym. 65, that the dress of the Indians was cotton:*

* The cotton shrub is afterwards described. The dresses here intended may perhaps have been *quilted*, like those of the Phœnicians and the *Assyrians*; who are said to have had *linen curiasses*. See above, page 266; and Polym. c. 89.

" that their *bows* were made of *reeds*," by which, as in several other instances,* *bamboos* are unquestionably to be understood; as they are at this day in common use. Their arrows were also " of reeds, (of a small size we may suppose, as at present) and pointed with iron." And in Polym. 86, " the Indian cavalry were armed like their infantry; but besides *led* horses, they had chariots of war, drawn by horses and wild asses." Here, no mention of elephants is made, although they were so much used in war, when Alexander visited India, at too short an interval after the time to which the descriptions of our Author refer, to have allowed of any considerable change. He does not appear to have known that there were any elephants in India; another proof of the slight degree of knowledge of India, possessed by the Greeks, in those times.

Herodotus's very confined knowledge of India, is also proved by the extraordinary reports which he has detailed concerning its inhabitants; some of which are highly injurious to the character of that industrious, inoffensive, and highly civilized people. For, with many particulars that are true, respecting their customs, and manners, he has mixed a greater number that are false; and of such a nature as to brand their characters with a charge of odious and obscene practices; from which they are perfectly free, at this time; and were so, no doubt, then. Thalia, 98, *et seq*. The expedition of Alexander was within 150 years of the time referred to, by our Author; and the Grecians, who then visited India, speak of a very different state of things, even amongst the people of the Panjab,† who appear to have been polished and well informed. How otherwise can it be reconciled, that a prince of Alexander's character, should have selected one of these Indians for a companion?‡ What say Ptolemy and Aristobulus, from whom Arrian collected his ideas? " That the country (adjacent to the branches of the Indus) was rich, the inha-

* As amongst the *Bactrians*, *Caspians*, &c.

† The country watered by the *five* eastern branches of the Indus.

‡ We allude to *Calanus*, of whom more will be said in the sequel.

bitants thereof good husbandmen, and excellent soldiers: that they were governed by the nobility, and lived peaceably: their rulers imposing nothing harsh, or unjust upon them." Arrian, lib. v. ch. 25.

It is true, that Herodotus says, Thalia, 98, " Under the name of *Indians*, many nations are comprehended, using different languages:" and, as he had heard more of the western Indians, or those towards the Indus, than the others, (that being the part more particularly known to the Persians, by their recent expedition), it is possible that the tribes spoken of, might have been the savages of some of the wild tracts adjacent to the Indus, below the Panjab country.

He indeed excepts one tribe of Indians, from the generality of the practices imputed to the others, and whose character and description, in a general point of view, accord with those of the Hindoos. These, says he, " differing in manners from the above, put no animal to death, sow no grain, have no fixed habitations, and live *solely* upon *vegetables*. They have a particular grain, nearly of the size of millet, which the soil spontaneously produces, which is protected by a calyx; the whole of this they bake and eat. If any of these are taken sick, they retire to some solitude and there remain; no one expressing the least concern about them, during their illness, or after their death." Thalia, 100.

Here we may observe, that truth and misrepresentation are blended together. It is true, that they abstain from animal food; that they live on rice and vegetables; and that they expose their sick to, oftentimes, untimely death: but it is not true, that they have no fixed habitations, for no people in the world live so much in one place; nor that they live on grain produced spontaneously, for none are greater cultivators. All that Herodotus has said, therefore, proves in the strongest manner, the very imperfect kind of information concerning India, that had reached Greece; or that had been collected in Persia. For if he could say, and say truly, of Egypt, Euterpe 35, that " it claimed our admiration, beyond all other countries; and the wonderful things which it exhibited, demanded a very copious descrip-

tion: that the EGYPTIANS, born under a climate to which no other can be compared, possessing a *river*, different in its *nature* and *properties*, from *all* the *rivers* in the *world;* and were themselves distinguished from the rest of mankind, by the singularity of their institutions, and their manners;" would he not also have distinguished the HINDOOS, together with *their country* and *river*, had he been sufficiently informed concerning them? Egypt was indeed the admiration of Herodotus: this he *had seen;* but Hindoostan, and China, were placed, not only beyond the reach of his observation, but, in a great measure, beyond his knowledge.

Some of the particulars respecting India, which occur in our Author, and which from the odd mixture of truth and falsehood, are worthy of being pointed out to present notice, are added in the notes. It does not by any means appear, that he considered *any* of the Indians as being polished, or well-informed.*

* Thalia, 98. "Under the name of Indians, many nations are comprehended, using *different* languages; of these some attend principally to the care of cattle, others not; some inhabit marshes, and live on raw fish, which they catch in boats made of reeds, divided at the joint, and every joint makes a canoe. These Indians have a dress made of rushes, which having mowed and cut, they weave together like a mat, and wear in the manner of a cuirass."

99. "To the east of these, are other Indians, called PADÆI, who lead a pastoral life, live on raw flesh, and are said to observe these customs:—If any man among them be diseased, his nearest connections put him to death, alledging in excuse, that sickness would waste and injure his flesh. They pay no regard to his assertions that he is not really ill, but without the smallest compunction deprive him of life. If a woman be ill, her female connections treat her in the same manner. The more aged among them, are regularly killed and eaten; but to old age there are very few who arrive, for in case of sickness they put every one to death."†

† It is remarkable, that these people, so described as *cannibals*, are twice mentioned in other parts of our Author, under the name of *Callatiæ* or *Callantiæ*. Thalia 38, and 97. He says, in the former place, that they are "a people of India, known to *eat* the dead bodies of their parents; and that they were disgusted at the proposal of *burning* them, made by Cambyses.

The passage in Thalia 97, is not so easily understood; for *there* the *Callantian*

He further says of the Indians, Thalia 94, that "they were the most populous nation, of whom we have any knowledge; and were proportionally taxed" by Darius; which, indeed, appears from the vastness of the sums raised, could the numbers be depended on: but as he limits the length of the known parts of Asia, to a space *short* of what he assigns to Europe, (under the extended dimensions above described) or even to Lybia; Melp. 44; he could by no means have meant to include the *whole* of India: nor, indeed, does his description of that country express it. For he says, "Europe, in length, much exceeds the other two (Lybia and Asia), but is of far inferior breadth." Melp. 42. And in his description of India, he says, Melp. 98, "That part of India which lies towards the *east* is very sandy." And again, "the part most eastward is a *perfect desert*, from the sand;" but it is well known, that the eastern part of India, (Bengal and Oude, generally) is by far the most fertile part; nor will the above description apply to any other part of India, than that between the lower part of the Indus, and *Rajpootana;* and to this, it *does* literally apply. And hence, combining this information, with that concerning the southern part, which contained the blackest people, and who were independent of Persia, Thalia 101; we may

101. "Among all these Indians whom I have specified, the communication between the sexes is like that of the beasts, open and unrestrained. They are all of the same complexion, and much resembling the Ethiopians."

102. "There are still other Indians towards the north, who dwell near the city of *Caspatyrum*, and the country of *Pactyïca*. Of all the Indians, these in their manners most resemble the Bactrians: they are distinguished above the rest for their bravery, and are those who are employed in searching for the gold."—

The cotton plant is thus described, in Thalia 106. "They (the Indians) possess a kind of plant, which, instead of fruit, produces *wool*, of a finer and better quality than that of sheep; of this, the natives make their cloaths."

Indians (if meant for *Callatian*) are said to have *rites of sepulture:* according to Mr. Beloe's translation. Perhaps, something else is meant, as there is said to be a difference of opinion, respecting the meaning of the original.

conclude that *Darius*, in fact, possessed no more of India than what lay contiguous to the Indus, and its branches:* and also, that the limit of our Author's knowledge eastward, was the sandy desert of Jesselmere, called *Registan* (or the Country of Sand); and that the rest was described from vague report, which generally supplies the want of *facts*, by monstrous fables; as if men, when constrained to invent, thought that probable stories were too insipid for belief.

Herodotus had certainly never heard of the GANGES, a river in so many respects like the Nile, and in bulk so much superior; and this may convince us, that the Persians had not penetrated so far to the east at that period. But as he speaks of the nation of the PADÆI, said to be one of the most *eastern* nations of India; and who killed or exposed the aged persons amongst them; it must be supposed that he meant the people who inhabit the banks of the *Ganges*, the *proper* and *Sanscrit* name of which, is PADDA; GANGA being the appellative only: so that the *Padæi* may answer to the *Gangaridæ* of later Greek writers. See Thalia, 99.

It is a circumstance very well known, that whilst Alexander was at the Indus (in the *Panjab* country), some *Bramins* either came, or were brought, to him; and that one of them, by name CALANUS, at the request of the king, accompanied him into Persia. In this Indian philosopher, we trace, at the distance of more than 21 centuries, the same frame of mind, and the like superstitions, as in the same tribe, in our own times; a contempt of death, founded on an unshaken belief of the IMMORTALITY of the SOUL, (a cordial drop which the most *atrocious* of the *enlightened* moderns would rob us of); and an unconquerable adherence to ancient customs. The friendly connection that subsisted between Alexander and this philosopher, does infinite honour to both; for it proves that both possessed great minds, and amiable dispositions; and that Alexander was, at bottom, a philosopher himself; otherwise the independent mind of

* Of course, these cannot be the *Ethiopians* of *Asia*, who attended Xerxes, for they were included in the 17th Satrapy.

Calanus, could not have taken such hold of him. Alexander never appears to more advantage, than during the last act of the life of Calanus. This Indian sage, finding his health decline, and believing that his end approached (he was then 73, according to Diodorus, lib. xix. c. 2.), determined to lose his life on a funeral pile, to avoid the misery of a gradual decay; to which Alexander reluctantly consented, from an idea, that some other mode of suicide, less grateful to the feelings of Calanus, would certainly be resorted to. Alexander accordingly gave directions to Ptolemy, to comply with every request of the dying man; and to render him every honour that his situation admitted of; and even condescended to arrange the ceremonies himself. Descriptions of the awful ceremony are to be found in Arrian and in Plutarch.* Arrian appears to be much struck with the character and fortitude of Calanus; and remarks, that "this is an example of no mean import, to those who study mankind; to shew "how firm and unalterable the mind of man is, when custom, or "education has taken full possession of it." †

It may be believed, that the *moral* conduct of Alexander was influenced and improved by associating with this blameless man; and we therefore must lament that his acquaintance with *Calanus*, had not an earlier commencement. Then might the sad tragedy of *Clitus* have never been acted: and the inquiry into the conduct of *Philotas*, might have been more dispassionate! Happy the men in power, who have those of sense and moderation for their companions! But it is too unreasonable often to expect independence of mind, in such

* Plutarch, as well as Arrian, says, that Calanus told Alexander that he should soon see him again, at Babylon. The death of Calanus happened at *Pasagarda*. A severe frost happened on the night of the funeral, and occasioned the death of many persons, who committed debauches at the funeral feast given by Alexander. (Plutarch in Alex.)

† Arrian, lib. vii. My friend Mr. Wilkins supposes that his name may have been *Kàlyānàh*, in his own country.

situations. Alexander, therefore, was a rare instance of a prince who tolerated it.*

Thus, the accusation of barbarism in the manners of the Indians, brought by Herodotus, falls to the ground; unless the same barbarism is to be attributed to Alexander.

There occurs in Diodorus (lib. xix. c. 2.) an account of an Indian widow's burning herself on the funeral pile of her husband, who had commanded the troops brought out of India; we must suppose, by Alexander. The name of this general was *Ceteus*, (or rather *Keeteus*); and he was, no doubt, of the *Kătri* tribe of Hindoos. The event happened in the camp of Eumenes, on the borders of Media, about eight years after the death of Alexander, during the struggle for empire, between Eumenes and Antigonus.†

* The history of CALANUS brings to mind that of another virtuous Asiatic, ALLAVEE KAN, a physcian of eminence, who, at the desire of Nadir Shah, accompanied him from Delhi to Persia, after his conquest of Hindoostan, in 1740. This physician was a Mahomedan of family, and of the most respectable character; and, according to the anecdotes given of him by ABDUL KHURREEM, pages 44 and 74, was worthy of being placed in the same list with CALANUS. By the influence which this gentleman possessed, over the mind of one of the most stubborn and bloody tyrants the earth ever produced; as well as by a variety of other instances of a similar influence, operating on other men; we are led to suppose, that of all professors, those of physic take the firmest hold of the minds of the persons, whose necessities they administer to; when medical skill is combined with sagacity and address. And to the honour of the profession, it must be acknowledged, that this influence has very often been exerted to the best of purposes.

† "KEETEUS left behind him *two* wives, who disputed the honour of burning themselves with the body of their husband, who fell in battle, after fighting with great courage. It was decided in favour of the youngest, the elder being pregnant.

"As soon as she came to the pile, she took off the ornaments of her person, and distributed them amongst her servants and friends, as tokens of remembrance. The ornaments consisted of a number of rings on her fingers, set with all manner of precious stones, of divers colours; a great number of small golden stars, interspersed with sparkling stones of all sorts, in her head-dress; together with abundance of jewels about her neck. At length she took leave of all her family and servants, and,

The ceremony is described to be exceedingly alike to what the Author has himself seen in India; in the distribution of the personal ornaments of the widow, to her servants; in her being more particularly attended by her husband's brothers; in turning herself on the pile, towards the dead body of her husband; and in ending her life with the greatest heroism.

In Diodorus, it is said that the army of Eumenes, solemnly in arms, marched round the pile *thrice*, after the widow had ascended it: but in the instance seen by the Author, which was that of a rich private individual, the widow herself walked the same number of times round the pile; and the fire was applied to it by her eldest son, who was about eight years old: and instead of being *placed* on the pile, she ascended it by her own exertions.

Calanus distributed the ornaments, with which the king had caused the pile to be decorated, to certain persons present; and the *Nisæan* horse, provided also by the king (who supposed him to be too much weakened by sickness, to be able to walk), to Lysimachus, afterwards king of Thrace, who was one of his disciples and admirers. It has not come to our knowledge, that any *men* in India, have voluntarily burnt themselves, like Calanus, in modern times.

We have now completed the examination of the Twenty Satrapies; and from the above statement, compared with the map, an idea may be collected of the extent and division of the Persian empire under Darius Hystaspes. Cyrus had added to the central provinces of Persia, Media, Assyria, &c. those of Lydia, and Asia Minor, generally, on the west; Bactriana, and others, on the east; to which his son and

then her brother placed her upon the pile; and, to the great admiration of the spectators, she ended her life with an heroic courage.

"The whole army solemnly in their arms, marched thrice round the pile, before it was kindled; she, in the mean time, turned herself towards her husband's body, and did not discover, by shrieks or otherwise, that she was at all daunted, by the crackling of the flames," &c.

successor, Cambysés, added Egypt; and Darius himself, Iönia, a part of Thrace, and many of the islands of the Archipelago.

In the above division of the empire into Satrapies, there appears that sort of congruity, which furnishes an internal evidence of the truth of our Author's statement; at the same time that it proves a more extensive knowledge of the geography of Asia, than would have been imagined, without the aid of this investigation.

Herodotus remarks, (Thalia 95.) that "if the Babylonian money (in the above statement) be reduced to the standard of the Euboic talent, the aggregate sum will be found to be 9886 talents of silver; and estimating the gold at 13 times the value of the silver,* there will be found 4680 Euboic talents more. So that the whole tribute paid to Darius was 14560 talents (Euboic).

The aggregate arising, on the detail, is 7740 Babylonish talents of silver, and 600 talents of gold. But as our Author does not give the proportion between the two talents, we are unable to compare the accounts. He says, however, Thalia 89, that the Babylonian talent is equal to 70 Euboic *minæ*, and Arbuthnot informs us, that the Euboic talent was equal to 60 *minæ* only. This proportion would give a result different from our Author's; since 7740 Babylonian talents, would at the above rate be equal to no more than 9030 Euboic, whilst Herodotus has 9880: and adding to these, the

* The proportion of gold to silver, has of course varied at different times, according to the comparative plenty, or scarceness, of either. At present, 1799, they are as $15\frac{1}{4}$ to 1. According to the authorities in Arbuthnot, they have been at the rate of 9 to 1. (See his book on Ancient Weights and Measures, Coins, &c. p. 43, *et seq.*)

One circumstance is worthy of notice—the plunder of western Europe by the Romans, in the time of Julius Cæsar, *sunk* the value of gold *one-tenth*; whereas, the plunder of the same countries, by the French, in these times, has *raised* the value of gold: so much more, must it have been the custom to use vessels and trinkets of gold, anciently, than now: for the change in the proportions could only have been effected, by drawing into circulation, what was before applied to other uses.

produce of the tribute in gold, according to his own calculation, 4680, the aggregate is 13710 Euboic talents. If the tribute in gold is taken at 600 talents, as in the text, the number of silver talents resulting, will be 7800; making an aggregate of 16830; which is 2270 more, as the former is 850 less, than his calculation. It is probable that the number 600, for the Indian tribute, is a mistake, and that he corrected it to 360: so that the difference of the accounts, is, in fact, 850; and which may only be owing to our having adopted a wrong proportion.

Taking the value of the Euboic talent at £193. 15*s.* according to Arbuthnot's evaluation, the sum arising on the above number of talents, is about £2,821,000. If to this, be added, according to the above statement, 700 talents, for the value of the Egyptian grain; and 1000 more for the contribution of the Arabians; and if we are allowed to value the gratuities from the *Persians*, the Ethiopians, and the Colchians,* at 2000 more; that is, 3700 talents in addition, the aggregate will be about £3,650,000; or somewhat more than $3\frac{1}{2}$ millions of our money. It must strike every one who is conversant with numbers, that this sum is a small revenue for an empire, little inferior in extent to Europe. The provinces of *Babylonia*, *Assyria*, and *Mesopotamia*, collectively, paid no more than 1000 talents, which might be equal to about £226,000. of our money: although at an earlier period, this Satrapy is said to have been equal to one-third of the whole empire. Clio, 192. As it cannot be supposed that the statements are generally wrong, although particular errors

* It has been remarked, that a part of the gratuity of the *Colchians*, and people of *Caucasus*, was 100 youths and 100 virgins; Thalia, 97: so that the southern kingdoms have in all ages drawn supplies of men and women from this quarter; which furnished a hardier race of men, and more beautiful women. The *Mamlouks* (that is, the soldiery) of Egypt, are still drawn from the neighbourhood of Caucasus. It has appeared that slaves from the *north*, were sold in the markets of *ancient Tyre*. See above, page 248: and Ezekiel xxvii. v. 13. and 14.

may be expected, it may be collected that the value of money was *incredibly* greater at that time, than at present. The rich and trading kingdom of Egypt and its dependencies, which sent 200 *Triremes* to the fleet of Xerxes, paid only £320,000. including the corn furnished, and which amounted to half of the sum. Thus, if we suppose a population of three millions,* it will be only about two shillings per head: and the people of Bengal, at this time, who are not heavily taxed, pay about seven shilling per annum.†

Herodotus observes, Thalia, 96, that in process of time, the islands (of the *Ægean* sea) also were taxed; as was that part of Europe which extends to Thessaly.

The mode in which the king deposited these riches in his treasury, was this: the gold and silver were melted and poured into earthen vessels; the vessel was then removed, leaving the metal in a mass. When any was wanted, such a piece was cut off as the occasion required.‡ The invention of coinage was either not known, or not practised, till that time, in Persia; for when the *Daric*, a gold coin, was struck by Darius Hystaspes, it appears, according to the words of the historian, to have been regarded as a new thing.§ For he says, Melpom. 166, "that Darius was desirous of leaving some monument of himself, which should exceed all the

* Diodorus, lib. 1. c. 3. fixes the number of inhabitants in Egypt, in his time, at *three* millions; Volney, at 2,300,000. Ancient Egypt is said, by Savary, to have supplied food for eight millions of people; the surplus of which was exported to Italy, and other countries; but he believes that at present the estimate of its produce, is less than one half that quantity. We should conceive that it is yet much overrated.

† Early in the present century, the revenue of India, under Aurengzebe, was about thirty-two millions sterling, or *nine times* that of the empire of Persia, 2300 years ago.

‡ We have read that the sovereign of some Eastern kingdom, manages exactly in the same way, with the bullion in his treasury.

§ The novelty might have lain in the superior fineness of the gold.

efforts of his predecessors:" and this was a coin of the very purest gold.* No doubt this idea was taken up, after he had collected a great deal of gold by means of the Indian tribute; for he received only a very small quantity from Africa (Thalia, 97), although the rivers of that continent abounded with it, and the Carthaginians trafficked for it: Melpom. 196.

We shall close the account of the Satrapies, and our remarks on the armament of Xerxes, with some additional ones on the general truth of the statement of the latter, and on the final object of the expedition.

Brief as the descriptions in the text are, they contain a great variety of information; and furnish a number of proofs, of the general truth of our Author's history: for the descriptions of the dress and weapons of several of the remote nations, engaged in the expedition of Xerxes, agree with what appears amongst them at this day; which is a strong confirmation of it, notwithstanding that some attempts have been made to ridicule it, by different writers. Herodotus had *conversed* with those who had *seen* the dress and weapons of these tribes, during the invasion: and therefore we cannot doubt that the Indians clothed in *cotton*, and with bows made of *reeds*, (*i. e.* of bamboos) were amongst them. Of course, that the *great king* had summoned his vassals and allies, generally, to this European war: a war intended not merely against *Greece*, but against EUROPE in general, as appears by the speeches of Xerxes, and other circumstances. For our Author says, Polym. 8, that after the subjection of Egypt, Xerxes "prepared to lead an army against Athens;" and, in a council assembled on the occasion, said, "after the reduction of Greece, I shall over-run *all Europe*—a region not inferior to our own *in extent*, and far exceeding it in fertility."—In 50, he

* Aryandes, prefect of Egypt under Darius, imprudently attempting to imitate his master, by issuing a coin of the purest *silver*, under the name of *Aryandic*, forfeited his life to magisterial jealousy. Melpom. 166.

also says, " Having effectually conquered *Europe*, we will return, &c. :"*—And, in 54, he " implored the sun to avert from the Persians, every calamity, till they should totally have vanquished *Europe;* arriving at its *extremest limits.*

It is said, Polym. 20, that after the reduction of Egypt, Xerxes employed *four whole years* in assembling the army, and in collecting provisions; and that of all the military expeditions, the fame of which had come down to them, this was far the greatest; much exceeding that which Darius undertook, against the Scythians; that of the sons of Atreus against Troy; or that of the *Mysians* and *Teucrians*, before the Trojan war; which nations, passing the Bosphorus into Europe, reduced Thrace and Thessaly.†

The evident cause of the assemblage of so many nations, was, that the Europeans (as at the present day) were deemed so far superior to *Asiatics*, as to require a *vastly* greater number of the latter, to oppose them. This is no less apparent in the history of the wars of Alexander; and of the wars made by Europeans, in the East, in modern times. However, we do not by any means believe in the numbers described by the Greek historians; because we cannot comprehend, from what is seen and known, how such a multitude could be provided with food, and their beasts with forage. But that the army of Xerxes was great, beyond all example, may be readily believed; because it was collected from a vastly extended empire, every part of which, as well as its allies, furnished a proportion: and if the aggregate

* There is in this speech of Xerxes, made at the passage of the Hellespont, an observation worthy of remark, as applying to the *then* state of Europe. He says, " having conquered Europe, we will return without experience of famine, or any other calamity; we have with us abundance of provisions, and the nations amongst which we arrive, will supply us with *corn*, for they against whom we advance, are not shepherds, but husbandmen."

† In perusing the intercepted French Correspondence from Egypt, one is struck with the justice of a remark of M. Boyer's, that, such was the magnitude of the armament of Buonaparte, against Egypt, that nothing comparable to it had passed the Mediterranean, since the time of the *Crusades*.

had amounted to a *moderate* number only, it would have been nugatory to levy *that* number throughout the whole empire, and to collect troops from India and Ethiopia, to attack Greece, when the whole number required might have been collected in Lower Asia.

The rendezvous of the land army was said to be at *Critalis*, in *Cappadocia*, Polym. 26; and that of the fleet, at *Elæos*, in the Thracian Chersonesus; 21. The former, is a position not known to us; but, as it lay on the east side of the Halys, in Cappadocia, and in the road from Susa to Sardis, through *Celanæ* and *Colossæ*, which was the king's route, it may be supposed to have been near the site of the present *Erekli* (the *Archelais Colonia* of the Romans; in which position, *no* town is remarked by Xenophon.)

What renders this supposition very probable, is, that at *Erekli*, not only the roads through the two passes of Cilicia unite, but the great road from Armenia, and from the regions situated generally between the Euxine and Caspian seas, falls in there. There is also a fine river at this place, the principal branch of the Halys, which would render it yet more eligible, as a place of encampment for so vast a host.

From thence the route lay through Asia Minor, to Sardis, and Troas, to the bridge over the Hellespont. It is said by Herodotus, Polym. 115, that "the *Thracians* hold the line of country, through which Xerxes led his army, in such extreme veneration, that to the present day, they never disturb or cultivate it." He also remarks, that, "*Megara* was the most western part of Europe, to which the Persian army penetrated;" Calliope, 14: but they were in Phocis, and in the neighbourhood of Delphi, (Urania, 35, *et seq.*) which is much more to the west. Perhaps he was only speaking of their progress *from Attica*.

In the history of the Persian invasion, and its termination, so glorious to GREECE, Herodotus has given a lesson to all FREE STATES, that either *do* exist, or that *may* hereafter exist, in the world; that is, to dispute their independency, let the numbers of the enemy be

what they may. He has shewn that the Greeks, although a large proportion of their country was in the hands of the enemy, were still formidable; and, in the end, prevailed over a foe, that outnumbered them more than *three* to *one*, in the decisive battle of *Platæ;* notwithstanding there were included in that vast majority, as many of their renegade countrymen, as amounted to nearly half their own numbers.* It is true, that the invaders were PERSIANS, and the defenders GREEKS: but the event of the contest depended chiefly on the obstinate determination of the Greeks not to submit; a resolution, which, accompanied by wisdom and discipline, must ever prevail.

The DUTCH acted like FREE MEN, when they determined to defend their *last ditch* against Louis XIV.; and, in the last resort, to embark for their foreign settlements; as the PHOCÆANS aforetimes did for Corsica; (see Clio, 165.) The ANGLO-AMERICANS have just displayed the same noble sentiments (worthy of their ancestors) in treating with equal contempt, the proffered, but hollow, friendship; and the threatened enmity, of France: France, whether monarchical, or republican, the common enemy of the peace and independence of nations![†] Let us persevere in determining not to be duped

* See Calliope 29, 30, 32. The confederated Grecian force was 110,000; that of the Persians 350,000, of whom 50,000 were Greek auxiliaries.

† In the prospect of future times, there is a subject for pride, in the breasts of Englishmen; which is, that so vast a portion of the globe will be peopled by their descendants. We allude, of course, to America and New Holland; the latter of which, alone, appears to have room enough for as many inhabitants, as Europe at present contains. This is at least beyond the power of the French Directory to prevent; for the progress of population in America, is too rapid to be opposed by human means; and will soon outgrow that of France, with all her conquests and fraternizations. America, fortunately for the world, has given the pledge of enmity to France; so that the danger of contamination of morals, by too intimate a connection, is removed.

The colony of New South Wales, too, will probably be able to take care of itself, before the French have opportunity, or leisure, to molest it. Bad, as the habits of

by France, by supposing that any peace with her, is short of submission; for such an act, on the part of the present government of that country, (wretched and *subdued* within, in the midst of *victory* without) could only be done to gain time, and to lull us into security; in order finally to crush us with the greater ease.

The present state of France cannot last, unless the rest of Europe become accomplices with her, in their own destruction. We can only patiently wait the event; and although poverty may come on, ere a change happens, yet when it does happen, we shall at least start on equal terms with them in point of capital (for the successes of France do not make her rich), and infinitely superior, in point of reputation; which is not to be undervalued, in the calculation of national strength. Submission would lower our reputation, even more than national bankruptcy. Besides, the very means used to prevent the evil, would produce it; for poverty will most assuredly follow submission; and that, without any hope of improvement, by a change of circumstances: and it is surely better to be poor WITH hope, than WITHOUT it. No sensible man can build his hopes, on the moderation, or good faith of the enemy; and therefore a cry for PEACE, under the present existing circumstances, can only be calculated to mislead, or to divide the community.

If we fear the diminution of our property or income, when justly

many of its settlers have been, we have more hopes of their amendment, as matters go, than if they were contaminated by French principles: and as to their posterity, it will make no difference, if the mother country provide, as she is bound to do, for the instruction of the rising generation. This generation is said to be very numerous; and it is pretty obvious, that, on the care of their religion and morals, the character of THE FUTURE NATION will depend.

It ought perhaps to afford a triumph to literary men, that the English language had received its highest degree of improvement, before the epoch of our great colonizations. He therefore who writes in English, and whose works descend to posterity, will probably have the greatest number of readers; as was, perhaps, the case heretofore, of him who wrote in French.

apportioned, we must pay the forfeit of that fear; that is, our most excellent and consolatory religion, our liberty, our comforts; in a word, all that we have been contending for, during so many generations, either with domestic tyrants, or foreign invaders. Hitherto, the danger from the latter, has been *distant;* but it is now at the very threshold. We are as able to contend as ever; perhaps better, from the active military spirit that has kept pace with the danger, and which must gradually make us an armed nation; that is, such a proportion of the people as have leisure to qualify themselves for its defence: and, can leisure be more worthily employed? Surely, if wisdom, and an attention to rational œconomy, do not forsake us (and the want of either, must sink the most rich and powerful country in the world), we can oppose the enemy on our own ground, with superior numbers, and with superior effect; since the country will be every where hostile to him. Besides, with FREEMEN, the MIND goes more towards the defence of what is dear to them, than it possibly can, on the other side, towards depriving them of it.

If the enemy is bent on our destruction, what have we to do, but to dispute the point, even to extermination? What worse can befal us, by contesting it, than by submitting? Take the examples of *conquest*, of *submission*, and of *fraternization*, severally; and then let any one, if he can, point out the distinction between the treatment that the French government has shewn to the different people who have fallen under its power, by those different modes! We have therefore nothing to hope, but from our own exertions, under the favour of Heaven: and let us trust, that the contest will terminate gloriously, and perpetuate the system of liberty transmitted to us by our ancestors; and thus hold out another bright example to succeeding times. The hatred of Europe is rising against France, (or rather against its government; for we hope that this distinction may be made in favour of a great proportion of the people, who

may not be made accomplices in its guilt); that hatred must increase, and become general; and all Frenchmen who leave their own country on schemes of hostility, must, in the end, be hunted down as enemies to the peace and comfort of mankind. We will hope that the time is not far distant.

T t 2

SECTION XIII.

AN EXAMINATION OF THE REPORT OF THE GEOGRAPHY; AND OF THE DISTANCES, ON THE ROYAL ROAD, BETWEEN IÖNIA AND SUSA; BY ARISTAGORAS, PRINCE OF MILETUS.

Intrigues of Aristagoras, *Prince of* Miletus, *to engage the* Lacedæmonians *in Hostilities with the King of* Persia.—*Firmness of* Cleomenes; *and wise Saying of his Daughter* Gorgo—*the Prince of Miletus explains his Ideas, by Means of a* Map *engraven on* Copper.—*Sketch of the Geography between* Iönia *and* Susa.—*Countries of* Lydia, Phrygia, Cappadocia, Armenia, Matiene, Cissia.—*Intervening deep Rivers.—Inaccuracies in the Report, from the loose Manner in which the Ancients treated geographical Subjects.—Comparison of the* Stathmus, *with the ordinary* March *of an Army: and of the ancient* Parasanga, *with the modern* Farsang—*the Parasanga of Herodotus, agrees with the Farsang, when referred to the same Ground; but exceeds the popular Estimation of* 30 *Stades—that of Xenophon falls below it.*—Royal Road *in* Persia; *its* Stathmi *and* Caravanserais.

THERE occurs in Herodotus, a narration of a very interesting and curious conversation between ARISTAGORAS, prince of Miletus,* and CLEOMENES, king of Sparta, on occasion of soliciting the assistance of the Spartans, against Darius Hystaspes. This conversation produced a report of the distance by the *Royal* Road leading from Sardis to Susa, together with a short description of the countries through

* See the history of Aristagoras, his intrigues, and fall, in Terpsichore, 28, *et seq.* Of *Miletus*, Herodotus says, "It might be deemed the pride of Iönia, and was at that time in the height of its prosperity."

which it lay. The application, however, proved fruitless; notwithstanding that it was accompanied with an offer of a considerable sum of money, which the virtue of the Spartan prince rejected with disdain.*

We propose to examine this description, both with respect to the geography of the country, and the distribution of the distances. The geography itself is very briefly related, but may be taken as a fair specimen of the geographical division of that part of Asia, amongst the Greeks, previous to the improvement which it received, by the expeditions of Xenophon and Alexander.

With respect to the distance at large, it is very perfect, but the detail is in some places incomplete; which is much to be regretted; for had it been otherwise, much advantage might have accrued to ancient geography, by the comparisons that might have been made, between the different intervals given, and the actual geography. Still, however, some advantage may be gained by making use of the materials, as they are, to ascertain the length of the *stathmus*, or

* This transaction gave rise to one of the most interesting anecdotes in our Author's work. The king having, at a former interview, denied the request of the prince of Miletus, and warned him to depart from Sparta, was assailed in the manner thus described:

Aristagoras taking a branch of olive in his hand, presented himself before the house of Cleomenes, entering which, as a suppliant, he requested an audience, at the same time desiring that the prince's daughter might retire; for it happened that GORGO, the only child of Cleomenes, was present, a girl of about eight or nine years old: the king begged that the presence of the child might be no obstruction to what he had to say. Aristagoras then promised to give him 10 talents, if he would accede to his request. As Cleomenes refused, Aristagoras rose in his offers to 50 talents; upon which the child exclaimed, "FATHER, UNLESS YOU WITHDRAW, THE STRANGER WILL CORRUPT YOU." The prince was delighted with the wise saying of his daughter, and instantly retired. Aristagoras was never able to obtain another audience of the king, and left Sparta in disgust. Terp. 51.

This illustrious princess was afterwards the wife of the immortal LEONIDAS, who perished in the defence of his country at *Thermopylæ*. She was as remarkable for her virtue, as for the excellence of her understanding.

stage: or rather, as we conceive, that of the *marches* of the Persian armies; for such, they will unquestionably turn out to be.

The mode in which Aristagoras communicated his ideas, will strike the historian, the geographer, and the antiquarian, as being very curious. It was by means of a MAP engraven on a tablet of brass, or copper; the first of the kind, we believe, that is mentioned in history: but which practice may nevertheless have been in use, amongst the statesmen, and men of science of those days.*

Herodotus says, Terpsichore, 49, that Aristagoras appeared before the king of Sparta, "with a tablet of brass in his hand, upon which was inscribed *every known part of the habitable world, the seas, and the rivers:*"† and to this he pointed, as he spoke of the several countries between the Iönian sea, and Susa.

"Next to the IÖNIANS, (says Aristagoras) are the LYDIANS, who possess a fertile territory, and a profusion of silver. Contiguous to these, on the east, are the PHRYGIANS, a people, supposed, beyond all others, to enjoy the greatest abundance of cattle, and of the produce of the earth. The river Halys forms their boundary: beyond which are the CAPPADOCIANS, whom the Greeks call SYRIANS. Then follow the CILICIANS, who possess the scattered islands of our sea, in the vicinity of CYPRUS. The ARMENIANS border on the CILICIANS; being separated by the *Euphrates*, which is only passable in vessels. The Armenians, who have also plenty of cattle, have for their neighbours, the MATIENI, who inhabit the region contiguous to CISSIA; in which district, and not far from the river *Choaspes*, is SUSA, where the PERSIAN MONARCH occasionally resides; and where his treasures are deposited. Make yourselves masters of this city, and you may vie in affluence with Jupiter himself."

* Many of our readers must have heard of the copper plate, which had a copy of a grant of land engraven on it in *Sanscrit;* and bearing date about the time of the birth of our Saviour; found at Monghir in Bengal, some years ago. It was translated into English, by my friend Mr. Wilkins. The plate is now in England.

† What a feast for an antiquary, could it be produced!

From IÖNIA to CILICIA, the division of country is much the same as we find amongst the ancients in general. But CILICIA, by being extended to the *Euphrates*, is made to include the northern part of *Syria;* that is, the province of *Cyrhestica*. The *Chellians* mentioned in Judith, chapter ii. ver. 21, appear to be the people of the district which includes the town of *Killis*, not far from Aleppo; whence it may be suspected that the Cilicia of Herodotus included this province. (See above, page 242.)

ARMENIA has an unusual extent given it; for it is extended not only through the northern part of Mesopotamia, but through Assyria, likewise. This we collect more particularly, from the description of the courses of the *four* deep rivers, mentioned in this narrative, which are all said to flow *through* Armenia, within the space of $56\frac{1}{2}$ *parasangas;* and to intersect the road between Cilicia and Susa. It will be necessary to speak somewhat in detail, concerning these rivers, as the extent given to Armenia depends on their courses and positions.

The *first* river, is said to be the TIGRIS itself, (Terp. 52.) By the same name also, the *second* and *third* are distinguished, though they are by no means the same, nor proceeding from the same source; the one rising in Armenia, the other amongst the Matieni. These circumstances serve to point out the two latter, very clearly. The *second* is the *greater Zab;* the *Zabatus* of Xenophon: and the *third*, is the *lesser Zab;* which joins the Tigris near the city of Senn; the *Cenæ* of Xenophon. The *fourth* is said to be the *Gyndes*, which was formerly divided by Cyrus; and which, (our Author says) also rises in the mountains of Matiene, and runs through the country of the *Darneans*, in its way to join the Tigris. Clio, 189. This river is unquestionably intended for the *Diala*, of modern geography, which has its source in the same country with the lesser Zab, (that is, Matiene); but it neither flows through the country of the Darneans (Derna), nor does it intersect the road leading from Susa to Babylon. Therefore, this part of the description belongs

to the river of *Mendeli*, which flows through the country of Derna, and does really intersect the road just mentioned. (See above, page 202.) It would appear, then, that Herodotus (or Aristagoras) had confounded these two rivers together. The Diala is doubtless the *fourth* river, in this description; for it is a deep, and large stream; and also answers to the distance from the crossing place of the Tigris (probably Nineveh), which is given at $56\frac{1}{2}$ parasangas: but the Mendeli river should be the river divided by Cyrus; for according to the ideas expressed in page 203, that river should have ordinarily been fordable, as it is probable the Mendeli is; but the Diala certainly not; and it also lies wide of the road from Susa to Babylon. No river is noticed, between the Gyndes, and that of Susa: and it is to be understood that Aristagoras only meant to note the *deep* rivers; or those which particularly affected military operations, in the march from Iönia to Susa. We now return to the subject of Armenia.

The term MESOPOTAMIA, as applied to the tract between the Euphrates and Tigris, was not in use amongst the Greeks, till after the Macedonian conquest (we believe); the northern part of it, beyond mount *Masius*, being reckoned a part of Armenia,* and the southern parts to SYRIA and ARABIA. But our Author's extension of Armenia to the Diala river, is quite incorrect, and even contradictory: as he knew the position of Assyria, and reckons Babylonia, a part of it. Such is the vague way, in which many of the ancients expressed their geographical ideas; although they appear, in many instances, to have known better. Xenophon, who traversed Assyria, calls it MEDIA, throughout.

MATIENE is reckoned to commence at the FOURTH river (called the *Gyndes*, but meant for the *Diala*), and to extend to Cissia, or Susiana. Therefore, by Matiene, is intended in this place, the country between *Assyria* and *Susiana:* and as that was known in the times of Xenophon and Alexander, by the name of SITTACENE, (a

* Mr. Ives has much the same idea, where he speaks of the *Armenian* mountains; meaning mount *Masius*.

province of Babylonia), this should be the true reading, and not Matiene, which Herodotus himself places between Media *Major* and Armenia: or more properly speaking, it was a province of Media itself.* Matiene could only lie *above* the mountains of *Zagros*; but the royal road to Susa, lay *below* them through Assyria and Babylonia. Aristagoras must have had a very imperfect idea of the relative positions of the countries, between Susiana and Armenia, since he places Matiene alone between them, and omits Media altogether. But notwithstanding these inaccuracies, it is curious to trace the geographical ideas of the people of that time, and even the people of rank and command, who meditated expeditions into Asia, when the detail of its geography formed a subject of speculation, like that of Africa, at present; or of North America, early in the present century.

The next subject to be considered, is that of the distances on the royal road, between Sardis and Susa.

In the detail of these distances, the omissions amount to about one-third of the whole; and what is worse, one cannot judge between what *particular points*, the omissions occur; but they are *chiefly* between *Cilicia* and *Susa*; and more particularly between the Euphrates and Tigris, in the line between Zeugma and Nineveh. All that can be done, therefore, is, to compare the aggregate sum of the distance given, with the distance on our construction, in order to obtain a general scale for the *parasanga* and *stathmus*; and afterwards to examine, how far the several intermediate numbers of *parasangas* and *stathmi*, given in the detail, agree to those scales, respectively. If they coincide, we may infer a degree of general exactness, in the account; and we shall then be enabled to determine what was meant by the STATHMUS; which will doubtless turn out to be the ordinary march of an army.

Herodotus, after going into the detail of the distances, says,

* For he rightly places the sources of the *lesser Zab*, and the *Diala*, in Matiene, or on its borders. For the particular position of this province, see page 277.

Terp. 52. "it appears that from *Sardis* to *Susa* there are 111 stathmi, or stations;" however, the detail, (owing we must suppose to an accident having happened to the original MS.) contains no more than 81: and of these, four have no number of parasangas to them, like the rest: so that we have no more than 77 to calculate on. Here is the account:

	Stathmi.	Parasangas.
In Lydia and Phrygia - -	20 -	$90\frac{1}{2}$
Cappadocia - - -	28 -	104
Cilicia - - - -	3 -	$15\frac{1}{2}$
Armenia - - -	15 -	$56\frac{1}{2}$
Matiene - - - -	4	
Cissia - - - -	11 -	$42\frac{1}{2}$
	81	309

He says, moreover, (Terpsichore 53.) that if the measurement of the royal road, by parasangas, be accurate, and a parasanga be equal to 30 stadia, as it really is (says he), there are 450 parasangas, equal to 13,500 stadia, between Sardis and the royal residence of Memnon *(Susa.)**

Now, if 450, the number of parasangas in the aggregate, be divided by 111, the number of *stathmi*, we shall have 4,054 parasangas for each *stathmus*. And, on the other hand, if we take the detail as far as it goes, 309 parasangas, and divide it by 77 stathmi, it gives a proportion of 4,013 for each of the stathmi, in detail: a coincidence, which shews that the part of the detail, which has escaped the ravages of time, has suffered no material corruption.

On our construction, there is found an aggregate of about 1120 G. miles, between *Sardis* and *Susa*, taken through the points of *Issus* and *Mosul*; which divided by 450, the number of parasangas, gives 2,489 G. miles for each parasanga; or nearly two miles and half. Hence it appears, that the 4,054 parasangas, on the aggregate,

* And between Sardis and Ephesus, 540 more: in all 14,040. Terp. 54.

gives 10,09 G. miles for each *stathmus*; and the 4013, on the detail, 9,988; being about $\frac{1}{10}$ of a mile different from each other. Or, one may be taken at $10\frac{1}{10}$, the other at 10. And having brought the matter to this satisfactory issue, there can hardly be a doubt, but that by the *stathmus*, an ordinary day's march of an army was meant; since, when a due allowance is made for the exceeding great length of the lines of distance, on which it is calculated, it will be found to agree almost exactly with the scale of the *mean* march, deduced from a great variety of instances, but calculated on lines of distance of a moderate length; that is, of about 150 G. miles: but the lines between *Sardis* and *Susa*, are of 250 to 500 such miles, or thereabouts; and may require an addition of $\frac{1}{25}$ part to the proportion of *road distance*, calculated on the short lines. And this 25th part being equal to ,404, will make the *stathmus* 10,494, or say $10\frac{1}{2}$ G. miles: whilst the mean march is 10,6; or in road distance somewhat more than 14 British miles; allowing the inflexions to be $\frac{1}{8}$ over and above the direct distance, on lines of about 150 miles.

But although there is so remarkable a coincidence between the *march*, and the *stathmus*, it will be found that there is a great disproportion between the parasanga of Herodotus, and that of Xenophon, who lived at no great distance of time from each other: and it may be added, that, whichsoever of the two is right, that of Herodotus agrees best with the modern *farsang* in Persia. Both of these authors calculate the parasanga at 30 stadia, as well as the ordinary march, at 150 stadia: yet the parasanga of Xenophon, checked by the Roman Itineraries in *Cilicia*, &c. (see pages 21, 22,) turns out to be three Roman miles, equal to 2,142 G. miles only, in *direct distance*, whilst that of Herodotus is no less than 2,489, and is calculated on longer lines of distance. Now as the 150 stadia, allowed by *both*, agree very nearly to a *mean* march, this part of the subject appears to be clear; and the 111 stathmi of Herodotus agreeing so nearly to marches also, render it yet more certain: so that the difficulty respecting the standard of the *stade*,

as well as of the *stathmus*, seems to be done away. The difficulty that remains is, the disparity in the parasangas of the two Authors: but if it be admitted that any probability exists, of the modern *farsang* being the representative of the ancient *parasanga*, the decision must be directly in favour of Herodotus, as may be seen by a reference to the note in page 17, which shews that 593 modern farsangs, give a proportion of 2,63, whilst that of Herodotus is 2,489; or if we select the instances that apply more closely, 2,417 to 2,489.

But it is as certain that $33\frac{1}{2}$ stades are required to form a parasanga of this standard, when reduced to road distance, although Herodotus himself, in common with the rest of the Greeks, allowed no more than 30. And this being the case, it appears almost certain that Xenophon did not reckon 30 stades to a parasanga, on the ground of a coincidence between these portions of distance, but because it had been the custom amongst the Greeks, so to do. Parasangas, perhaps, with him, were merely nominal; the stade was the *standard* in his mind, as being in constant use. *Etiquette* might render it necessary to turn the stades into parasangas, in a journal kept in the camp of the Persians. Or, there might be some reason that we are not acquainted with.

Again, it might be a fact known to Herodotus, and to the Greeks in general, that the distance from *Sardis* to *Susa*, was 450 parasangas; and these he might turn into stades, in order to render it more intelligible to his countrymen, without knowing critically, what number of stades the Persian measure might contain; but taking it according to the popular opinion, at 30 stades. This appears decisive of the mode followed by Herodotus. If we take his parasangas on the footing of 30 stades, only, a march of 150 of these, would be equal to 17 *road* miles, nearly; exceeding the ordinary march, by a proportion that goes beyond credibility; since the standard of the mean march of an army, may be approximated, and is little more than 14 miles.

The Greeks, in making the comparison between the stade and the parasanga, may have reckoned vaguely; as European travellers of different nations, have compared their own itinerary measures, with those of Persia, India, and Turkey; often, indeed, with very little judgment, or accuracy. It may be said, that when the component parts are small, there is less danger of error; but even then, there is a hazard of running into an *even* number; as we suspect, has been done in the application of the Grecian stade, to the Persian parasanga.

These variations, however, have no effect on the determination of the length of the STATHMUS, which rests on the firmer foundation of actual geography; and may be regarded as the ordinary march of an army, attended by its equipage, &c. Still, however, there is something unexplained, respecting these stations. Herodotus says, "the king (of Persia) has various *stathmi*, or mansions, with ex-"cellent *inns*: these are all splendid and beautiful,"—he adds, "the whole of the country is richly cultivated, and the roads good, and secure." Terp. 52. These *inns* we must consider as being much the same kind of establishment, as the caravanserais of modern Persia; many of which, on the public roads, (as may be seen by the books of travels) are *grand*, *commodious*, and *extensive*.* But with respect to the accommodation of armies, they must have been out of the question; although they might have accommodated detachments, or officers. Very possibly they might have been calculated to receive the monarch and his retinue, when the army was put in motion: and that they had a reference to war, as well as to civil purposes, may be collected from the space between them; which is calculated for the day's march of an army, but is too short for the journies of *travellers* of any description; the slowest of whom, namely, those who travel in caravans, far outstrip an army.

* See Chardin, Olearius, Le Brun, &c.

In the above calculation of the *stathmus*, we have regarded *Sus*, as the ancient *Susa;* whilst Tostar, has been taken for it, by others.* Had the distance been taken to *Tostar*, instead of *Sus*, an addition of 44 G. miles to the 1120, must have taken place; in which case, the aggregate, 1164, would give a mean rate of 10,486; approaching, in the first instance, very closely to our mean march, 10,6; but with the addition of $\frac{1}{25}$ part, would go beyond it; as it must have appeared, that the grounds on which we determined the length of *that* march, do not apply to the present case, by reason of the exceeding great and unusual length of the lines of distance, on which the rate is proportioned.

* See above, page 203.

POSITION and ENVIRONS of Ancient BABYLON:

with the Median Wall, *the* Canals *of* Communication *between the* Euphrates & Tigris, *the* Pallacopa, &c. &c.

10 5 0 10 Geog. Miles

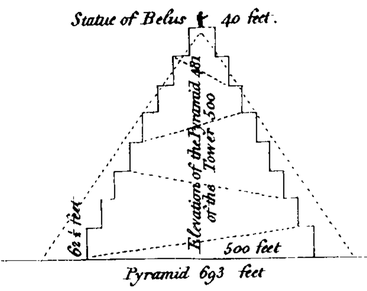
10 5 0 10 British Miles

10 5 0 10 15 Roman Miles

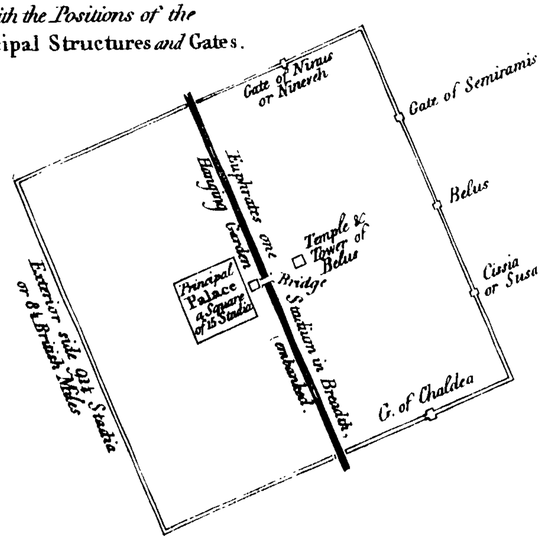
N.B. The Cities &c. which have their Ground Plans dotted, no longer exist.

Elevation of the Tower of Belus compared with that of the Great Pyramid of Giza

Page 361.



Ground Plan of the Enciente of BABYLON; with the Positions of the principal Structures and Gates.



British Miles of 1760 Yards

0 1 2 3 4 5 6 7 8 9 10

0 10 20 30 40 50 60 70 80 90 100

Stadia of 491 feet

43° 44° 45° 33° 32°

Published according to Act of Parliament by James Rennell Dec.r 1.st 1799.

J. Walker sculp.

SECTION XIV.

CONCERNING THE SITE AND REMAINS OF THE ANCIENT CITY OF BABYLON.

The Founder of BABYLON, *unknown in History*—Semiramis *only adorned and improved it.*—*The Report of the enormous Extent of its* Walls, *exaggerated, by the false Scale of the Stade: and the Extent of the* City *itself, by the Error of supposing the whole Area to be covered with Buildings.*—*Extent of* both, *checked by a Reference to the true Standard of the Stade; and to the Notices found in ancient Authors*—*the Area within the Walls, cannot be reduced lower than to 72 square British Miles; of which two-thirds may have been built on, or otherwise occupied.*—Nineveh, *according to some Authors, larger than Babylon.*—*Some of the Causes, that limit the Extent, and Population of Cities.*—*The geographical Position of Babylon, ascertained by ancient and modern Authorities, to be at the City of* Hillah, *on the* Euphrates—*general Description of the Ground Plan, and Distribution of the public Structures*—*Height and Thickness of the Walls.*—Tunnel *made by* Semiramis, *under the Bed of the Euphrates.*—*Respective Positions of the Temple of* Belus, *and the* Royal Palace—*City Gates*—*Description of the* Tower *of* Belus, *in the eastern Division*—*recognized by Della Valle and Beauchamp, in a vast Heap of Ruins, at a few Miles distant from Hillah*—*Foundations of the* City Walls *still dug up, and carried to other Places.*—Bitumen Fountain *in Babylon.*—*Course of the* Euphrates *through that City*—*Its Breadth conformable to the Report of Strabo*—*grand Embankments*—*Palace of* Nabuchodonosor, *in the western Division of Babylon.*—*Ordinary Disposition of the Materials of*

ancient Cities—Nature, and Dimensions, of the two Sorts of Bricks, used in Babylon—Remarks on the two Kinds of Cement; Bitumen *and* Clay: *the latter illustrated by the ordinary Mode of Building, in* Bengal.—Cutcha *and* Pucka, *two Modes of Building, in* India, *explained—Remarks on the Use of* Reeds, *or* Osiers, *in the* Cements, *in the Babylonish Structures.—Ruin named* Aggarkuf; *vulgarly called the* Tower *of* Babel.—*Decline and Ruin of Babylon.—The Palace of* Chosroes *in* Ctesiphon; *and the Cities of* Bagdad, Hillah, *&c. built of the Bricks of Babylon—general Idea of the Palace of* Chosroes; *or* Tauk Kesra.—*Difficulty respecting a Passage in Herodotus, stating that the Walls of Babylon, had been destroyed by Darius Hystaspes.*—Site *and* Antiquities *of* BABYLON, *accessible: and* worthy *of* Research.

IT is not intended to institute an inquiry into the antiquity of the foundation of BABYLON, or the name of its founder. It is remarkable enough, that Herodotus should not have given some intimation of this kind: but he only tells us that SEMIRAMIS and NITOCRIS, two of its queens, strengthened its fortifications, and guarded it against inundations; as well as improved and adorned it: leaving entirely open, the two questions abovementioned. May we not conclude, from this, that its antiquity was very great; and that it ascended so high, as that Herodotus could not satisfy himself concerning it? At the same time, the improvements that took place, in the city, in the reign of Semiramis, might occasion the original foundation to be ascribed to her; the like having happened in the history of other cities.

Herodotus informs us, that Babylon became the capital of Assyria *after* the destruction of Nineveh. Clio, 178. Perhaps then, we ought to date the foundations of those works, which appear so stupendous in history, from that period only: for wonderful as these works appear, even when ascribed to the *capital* of an *empire*,

the wonder increases when ascribed to the capital of a *province*, only.*

If then, with the ancient Authors generally, we allow Semiramis to have been the foundress of that Babylon, described by Herodotus, we cannot fix the date of the improved foundation, beyond the 8th

* The Assyrians (says Herodotus, Clio, c. 178, *et seq.*) are masters of many capital towns; but their place of greatest strength and fame is BABYLON, where, after the destruction of NINEVEH, was the royal residence. It is situated on a large plain, and is a perfect square: each side by every approach is, in length, 120 stadia; the space, therefore, occupied by the whole is 480 stadia. So extensive is the ground which Babylon occupies; its internal beauty and magnificence exceeds whatever has come within my knowledge. It is surrounded by a trench, very wide, deep, and full of water: the wall beyond this is 200 royal cubits high, and 50 wide: the royal exceeds the common cubit by 3 digits. The earth of the trench was first of all laid in heaps, and, when a sufficient quantity was obtained, made into square bricks, and baked in a furnace. They used as cement, a composition of heated bitumen, which, mixed with the tops of reeds, was placed betwixt every thirtieth course of bricks. Having thus lined the sides of the trench, they proceeded to build the wall in the same manner; on the summit of which, and fronting each other, they erected small watch towers of one story, leaving a space betwixt them through which a chariot and four horses might pass and turn. In the circumference of the wall, at different distances, were an hundred massy gates of brass, whose hinges and frames were of the same metal. Within an eight days journey from Babylon is a city called *Is*; near which flows a river of the same name, which empties itself into the Euphrates. With the current of this river particles of bitumen descend towards Babylon, by the means of which the walls were constructed.

The great river Euphrates divides Babylon into two parts. The walls meet and form an angle with the river at each extremity of the town, where a breast-work of burnt bricks begins, and is continued along each bank. The city, which abounds in houses from three to four stories in height, is regularly divided into streets. Through these, which are parallel, there are transverse avenues to the river, opened through the wall and breast-work, and secured by an equal number of little gates of brass.

The first wall is regularly fortified; the interior one, though less in substance, is of almost equal strength. Besides these, in the centre of each division of the city, there is a circular space surrounded by a wall. In one of these stands the royal palace, which fills a large and strongly defended space. The Temple of Jupiter Belus occupies the other, whose huge gates of brass may still be seen.

century before the Christian era: so that the duration of this city, in its improved form, was less than 800 years, reckoning to the time of Pliny.

Public belief has been staggered by the enormous dimensions allowed to Babylon by the different authors of ancient times, Herodotus, Strabo, Diodorus, Pliny, and Quintus Curtius; because that, even if the most confined of those measures, reported by the followers of Alexander, (who viewed it at their fullest leisure), be adopted, and the stade taken at the moderate standard, resulting from our inquiries, in Section II. they will give an area of 72 square miles; and those given by Strabo, at 80: either of which are enormous: for after every allowance is made for the different modes of building cities, in Europe and in Asia, the idea of covering 72 contiguous square miles with buildings, although interspersed with gardens and reservoirs, as in India and Persia; goes far beyond our ideas, even had Babylon been the capital of a large empire, and which had the command of a *marine*, as well as a *river*, navigation. But, according to history, Babylon, when founded, although possibly the capital of a large empire, yet could command no supplies by sea: nor were its inland navigations commodious; since the embarkations that descended from the upper parts of the rivers Euphrates and Tigris, could not re-ascend: a disadvantage hardly to be compensated, since the price of provisions and necessaries, must thereby have been raised to an inconvenient rate. Moreover, it must be recollected, that the country on two sides of Babylon, and those the most conveniently situated for the navigation of the Euphrates and Tigris, is composed of the most barren deserts in the world; namely, those of Arabia, and Sinjar.

We therefore conceive that, with respect to the extent of the *buildings* and population of Babylon, we ought not to receive the above measure as a scale; from the great improbability of *so vast a contiguous space* having ever been built on: but that the wall might have been continued to the extent given, does not appear so impro-

bable; for we cannot suppose that so many of the ancient writers could have been misled concerning this point. The Macedonians and others had viewed it; and both Strabo and Diodorus appear to have written from documents, furnished by them; and might also have conversed with persons who had *seen* Babylon: and they all speak of it, as of a city, whose circuit was of a wonderful extent: therefore we ought to be prepared for something very much out of the common way. But although we may extend our belief to the vastness of the *enceinte*, it does not follow that we are to believe that 80, or even 72 square miles, contiguous to each other, were covered with buildings. M. D'Anville, by reducing the stade to 51 toises, or about 330 English feet, has indeed reduced the area of Babylon to a standard* which may not be deemed improbable: but notwithstanding the acknowledged superiority of his judgment, on the subject of itinerary measures, we cannot subscribe to his opinion, in this matter; because it does not appear, on a reference to the ancients, that any stade of that standard was in use; or even known. It will here be necessary to refer the reader to the second Section of this work, in which the subject of the stade is fully considered; and from whence it appears, on a *mean* of *all* the different authorities, to have been regarded by the Greeks as a measure of 100 paces, or *about* 500 English feet. But taken critically, and in reference to the scale of an ordinary march of an army, considered as equal to 150 stades, it should be 493 feet; and to the march of Xenophon (of 150 stades also), compared with the measure of the ground in the Roman Itinerary, 489. (See particularly, pages 32 and 33 of this work.) The mean of these two results, 491, appearing

* M. D'Anville reduces the area of Babylon to about 36 British miles, *i. e.* to a square of 6 miles on each side (4,900 toises). And according to this proportion, he states the area of Babylon to be to that of Paris, as 5 to 2. (Euph. and Tig. p. 114.) This allows to Paris, an area of about $12\frac{2}{5}$ British miles; and we allow for that of London and its environs, about $15\frac{1}{2}$.

to us to be founded on that kind of practical authority, that should be looked for; and differing so little from the general result of *all* the authorities, may, in our conception, be with propriety applied to the measure of Babylon.

The different reports of the extent of the walls of Babylon, are given as follows:

By Herodotus, at 120 stadia, each side, or 480 in circumference.

By Pliny and Solinus, at 60 Roman miles; which, at 8 stades to a mile, agrees with Herodotus.

By Strabo, at 385 stadia: and

By Diodorus, from *Ctesias*, 360: but from *Clitarchus*, who accompanied Alexander, 365. And lastly, by Curtius, at 368.

It appears highly probable that 360, or 365, was the true statement of the circumference; since one of these numbers was reported by Ctesias, the other (which differs so little) by Clitarchus; both of them eye-witnesses of the fact, concerning which they wrote: and moreover, although Strabo differs from them by about 5 stadia, in the length of each side, yet it clearly appears, that in deciding on the evidence, he gave up the statement of Herodotus. It is, indeed, not improbable, that his original text gave the same as Clitarchus; and that it has been corrupted from 365 to 385. No doubt, he formed his opinion, on the reports of the followers of Alexander; very many of whom had written histories or journals of his expedition. Diodorus, in his statement of the length of the *embankment* of the Euphrates, through the city of Babylon, says, that it was 100 stadia in length: which, allowing $91\frac{1}{4}$ stadia for the square of the city, leaves about 2000 feet *beyond* it, each way; or allowing, with Strabo, $96\frac{1}{4}$ stades, leaves 800 or 900 feet. Either of these statements, of course, appears a more probable one, than that of Herodotus. And, it may be added, that although the reason given by Clitarchus, and others, for fixing the number at 365, must be regarded as a tale; yet the very act of connecting the number, with

that of the days contained in the year, seems to prove that it approached nearly to it.*

There does not, therefore, appear to be any way of getting rid of the fact, respecting the vastness of the space, inclosed by the wall: nor can it, in our idea, be reduced to less than a square of about $8\frac{1}{2}$ British miles; giving an area of 72 square miles; which yet falls short of the calculation, on the scale of Strabo, by 8 square miles. Nor do we adopt the lesser number, merely because the general statement appears overcharged, but because that it is conformable to the highest standard that we have been enabled to verify.†

But that even 72 contiguous square miles should have been, in any degree covered with buildings, is, on every account, too improbable for belief. In support of this opinion, we shall adduce the following facts, which seem to contain more argument than any reasoning; premising that we do not by any means aim at precision, in any of the numbers set forth.

The inhabitants of London, taken at a *ninth* part of the whole population of South Britain, (say about 7,000,000, or for London 800,000), require, for their supply of provisions and necessaries, a proportion of land, equal to about 6600 square British miles; on a supposition that they were confined to the consumption of its produce, alone, and that it was taken as it generally runs throughout the kingdom.

If there be allowed to Babylon an area of 72 miles, we conceive

* Thus the common idea respecting the cathedral of Salisbury, that the doors and chapels equal the months; the windows, the days of the year, &c.; is understood to be *generally* true: and could hardly have arisen from any other circumstance, than common observation of the fact itself.

† Taking the circumference of Babylon at 365 stadia, and these at 491 feet; each side of the square (which is equal to $91\frac{1}{4}$ stades) will be 8,485 British miles; or nearly $8\frac{1}{2}$. This gives an area of 72 miles and an inconsiderable fraction. If the same number of stades be taken at 500 feet each, the area will be 74,8. And finally, the 385 stadia of Strabo, at 491 feet, about 80. The 480 stades of Herodotus would give about 126 square miles, or 8 times the area of London!

that it would then bear a proportion to the space which the buildings of London occupy, taking in all its suburbs and members, whether *contiguous*, or *otherwise*; and allowing them an area of $15\frac{1}{2}$ British miles; as 9 is to 2, nearly. But as most of the large Asiatic cities that we have seen, or heard of, scarcely contain, within the same space, half the number of inhabitants that European cities do, we must reckon the proportion of population, that Babylon would have contained, to that of London, as 9 to 4. In this case, 15,000 square miles of such land as the common run of that in England, would have been required for the support of the people of Babylon, provided it had been *filled up* with buildings, after the Asiatic manner, and that the state of society had been like that amongst us. But as the simple manner of living amongst the lower classes of people in Asia, requires a less quantity of land to support it, than the style of living of the same classes in England, a considerable deduction may be made; and instead of 15,000 square miles, we may, perhaps, substitute 12,000. Now, it will appear, that this reduced sum of square miles, equals, within $\frac{1}{12}$ part, the whole area of Lower Mesopotamia: and even the whole tract properly denominated *Babylonia* and *Chaldea*, including all the arable and pasture land, from whence Babylon could conveniently have been supplied, by the inland navigations, was little more than double the above aggregate, taken at 13,000 square miles. And though it be true, that the quality of the Babylonish lands, in most places, was superior in fertility, to those of England; yet, on the other hand, a prodigious deduction must be made for the marshes and lakes of Lower Mesopotamia, and Chaldea. It then becomes a question, whether matters can be so constituted, as that nearly the half of the products of a considerably extensive country, can be transported to *any one point* within it; or whether, if that were practicable, the inhabitants of that spot, could afford to purchase them, at a price so greatly enhanced, as the circumstances of the case must necessarily render them?

The reader should be aware, that we have here stated every par-

ticular, at the lowest: for it may be observed, that if Babylon contained only the lowest number of square miles set forth in our statement, that is, 72; and had been built and inhabited in the manner of London, the *whole* country of Babylonia, Chaldea, &c. equal to about the half of *South Britain*, would not have been equal to the supply of its inhabitants; which would have amounted to little less than four millions.

Probably then, we ought to conclude that the founder of Babylon, extended, either through ostentation, or ignorance, the walls of this city, so as to include an area that could never be filled up with habitations: for it is not so much the extent of the walls, as the difficulty of collecting, in the first instance, and of supplying, in the second, the wants of so great a population, as the space must necessarily have contained; that staggers our belief. A despotic prince, who commanded the labours of his subjects in so complete a degree as to be enabled to rear such vast, and such useless piles, as the Egyptian Pyramids, could perhaps, with equal ease have extended a wall of brick round a space equal to the largest given dimensions of Babylon: but to collect together a number of people sufficient to occupy it, with any degree of convenience to themselves, and of advantage to the public at large, might be beyond the power either of a king of Egypt, or of Babylon. Therefore this famous city in all probability occupied a part only, of the vast space, inclosed by the wall. It is a question that no one can positively answer, 'what proportion of the space was occupied?' but from certain circumstances that we shall presently mention, it is possible that nearly two-thirds of it might have been occupied, in the mode in which the large cities of Asia are built; that is, in the style of some of those, of India, which we have ourselves seen; they having gardens, reservoirs of water, and large open places within them. Moreover, the houses of the common people, consist of one floor, only; so that of course, fewer people can be accommodated in the same compass of ground, in an Indian, than in a European city. This accounts

at once for the enormous dimensions of some of the Asiatic cities:* and perhaps we cannot allow much less than double the space to accommodate the same number of Asiatics, that Europeans would require.

Herodotus indeed says, that Babylon "*abounded* in houses from 3 to 4 stories in height;" which, however does not do away the idea of the *greater* part being *huts* of one floor only. In the Indian cities also, a great many houses of the like kind occur; but generally speaking, so much more open ground is attached to these, than to the huts, as to leave no balance in favour of population, from the additional stories.

That the area inclosed by the walls of Babylon was only partly built on, is proved by the words of Quintus Curtius, who says, lib. v. c. 4, that "the buildings (in Babylon) are not contiguous to the walls, but some considerable space was left all round." He says, the space of one *jugerum;* which being a square measure, equal to about $\frac{2}{3}$ of an acre; and expressed by Pliny, lib. xviii. c. 3, to be 240 feet in length, by 120 in breadth; perhaps 240 feet may be intended for the breadth of the void space; as Diodorus says much the same thing.† What follows, in Curtius, is not so easy to comprehend: he says, "nor was the inclosed space entirely occupied "by buildings; nor more than 80 stadia of it." Is a *square* of 80

* The Ayin Acbaree states, that the wall of Mahmoodabad, in Guzerat, was a *square* of *seven cosses*, which are equal to about 13 miles. We know no particulars concerning it, farther than that it was founded by Mahmood, the first Mahomedan conqueror of India.

Taking the extent of Gour, (the ancient capital of Bengal) at the most reasonable calculation, it was not less than 15 miles in length, extending along the old bank of the Ganges, and from two to three in breadth. See the Memoir of the Map of Hindoostan, page 51. See also the general idea of Asiatic cities, in the same Memoir, page 58.

† We have somewhere met with the *jugerum*, used as a measure, of length; but cannot recollect where. Dr. Greaves considers it as a space of 240 feet in length, when applied as above.

stadia meant? Then about $\frac{3}{4}$ of the space was occupied: and 80 *square* stadia is too inconsiderable a space, where the whole area is more than ten times as great. "Nor, (says he) do the houses "join: perhaps from motives of safety. The remainder of the space "is *cultivated;* that in the event of a siege, the inhabitants might not "be compelled to depend on supplies from without."* Thus far, Curtius.

Diodorus describes a vast space taken up by the palaces and public buildings. The inclosure of one of the palaces, (which appears to be what is called by others, the *citadel;* of which, more in the sequel) was a square of 15 stadia, or near a mile and half; the other of 5 stadia: here are more than $2\frac{1}{2}$ square miles occupied by the palaces alone. Besides these, there were the temple and tower of Belus, of vast extent; the hanging gardens, &c.

The present city of *Bussorah*, according to the description of M. Niebuhr, and others, is much to the point of our argument; and is also situated in the very same region with ancient Babylon. The circuit of its walls, according to M. Niebuhr, is about 7 British miles† (Mr. Irwin says 12), and may contain about 3 square miles; and yet M. Niebuhr reckoned, in 1766, only 40 to 50,000 inhabitants. The ground within the walls, has both date groves and cornfields, in it: and M. Niebuhr very aptly compares it to ancient Babylon, in this respect. By the plan, it seems as if less than one-third of the space was occupied by habitations, &c. in the usual style of building in Asia.‡

* According to Herodotus, it really happened during one of its sieges, that the inhabitants derived much advantage from the lands within the walls: but had half of the area remained in the state of fields, it would not have fed, in the usual way, one-sixth part of the inhabitants residing on the other half. But the mode of living, during a siege, is very different; and a small quantity of provisions goes a great way.

† He says a German mile and half.

‡ At the rate of 50,000 to 3 square miles, Babylon at 72, should have contained 1,200,000.

Although the above notices do not convey any correct idea of the quantity of space occupied by the buildings, yet we may collect most clearly, that much vacant space remained within the walls, of Babylon: and this, in our idea, does away the great difficulty respecting the magnitude of the city itself. Nor is it stated as the effect of the subsequent decline of Babylon; but as the actual state of it, when Alexander first entered it: for Curtius leaves us to understand, that the system of cultivating a large proportion of the inclosed space, originated with the foundation itself; and the history of its two sieges, by Cyrus and Darius Hystaspes, seems to shew it. See Clio, 190; and Thalia, 150, *et seq.*

But after all, it is certain, and we are ready to allow, that the extent of the buildings of Babylon was great, and far beyond the ordinary size of capital cities, then known in the world: which may indeed be concluded, from the manner in which the ancients in general speak of it.* In particular, what Strabo says of *it*, and of *Seleucia*; together with what Pliny says of the *latter*, proves, by comparisons which are very striking, that Babylon had been by far, the largest city known to those writers. Strabo says, p. 737, that Seleucia was, in his time, *larger* than Babylon; the *greater part* of which was become a desert. This implies that Babylon, in its *then* state, was in the *next degree*, in point of *size*, to Seleucia: for the *greater part* of Babylon, (that is, of the former city, we may suppose), was deserted, and yet Seleucia, which was a very large city, is represented only as being *larger than Babylon*, when in that reduced state. To add to this, Pliny, at perhaps 70 years after Strabo, says, lib. vi. c. 26, that Seleucia contained 600,000 people;

* If however we believe the report of Diodorus, the area of *Nineveh* was much greater than that of *Babylon*, taken on the report of Clitarchus. If the report of Strabo be adopted, Babylon falls but little short of Nineveh, in respect of the area contained within its walls; and if that of Herodotus, Babylon very far exceeds it. But, it must be supposed, at all events, that much open space remained in Nineveh, as well as in Babylon.

yet, we can hardly suppose that it had increased, during that interval; because Ctesiphon, previous to the time of Strabo, had become the winter residence of the Parthian kings. So that it may be inferred, at least, that Selucia, a very large city, containing 600,000 inhabitants, was rather less than *half* the original size, and contained less than half the original population, of Babylon: and, of course, that the population of the latter, during its most flourishing state, exceeded twelve hundred thousand; or perhaps, *a million and a quarter.*

It has been said, page 339, that London and its environs (by which is meant to exclude the parts that are only classed as such, by being inserted in the bills of mortality), may be supposed to occupy $15\frac{1}{2}$ square miles, of British measure; and also, in the same place, that, very probably, according to the scattered way in which Babylon, in common with other Asiatic cities, was built, nearly double the quantity of space would be occupied by an equal number of people, in that city; or say, 30 miles. Now, according to this proportion, the million and quarter of people in Babylon, should have covered, or at least have occupied, nearly 47 square miles; or within one mile, of $\frac{2}{3}$ of the whole space of 72 miles, taken on the report of Clitarchus, and others, who accompanied Alexander. The reader will recollect that the report of Curtius, as we understand it, is, a *square* of 80 stadia, which is equal to about $\frac{3}{4}$ of the area, according to his own statement of the circuit; which is 368 stadia. Thus the two results differ no more than about $\frac{1}{11}$ part.

Were we to admit, that the whole area of 72 miles, or, according to Strabo, 80 miles, was occupied; it would be stepping beyond the bounds that probability warrants, according to what has yet offered itself to our notice, in a situation that could not command supplies by sea. The measure of population, and consequently the extent of the ground built on, must have been regulated by the power of affording supplies of provisions and necessaries to the inhabitants; and this must have a reference, not only to the state of the sur-

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rounding country, but to the facility of transporting its productions. It has been already stated, that the access to Babylon, by water, was not easy: for so far from being open to all the world, for supplies, the communication with the adjacent countries, was but imperfect: and one of those countries, Arabia, afforded little or nothing.

Perhaps, in no case whatsoever, can the size of an *inland* capital be extended, so as to bear any proportion, to the extent of an overgrown empire: because the prices of provisions and necessaries, keeping pace with the increase of the people collected together, they cannot, in the end, afford to purchase them. And although this applies more particularly to *inland* situations, yet it applies, in *a degree*, to maritime situations, also.

It may be remarked that Diodorus says, that Semiramis brought together, from different parts of her empire, *two millions* of workmen, to build her city of Babylon. It is possible, that this number may have been the popular estimate of the inhabitants of the city: and so far is certain, that, at the rate allowed above, the 72 square miles would have contained more than nineteen hundred thousand. But it may rationally admit of a doubt, whether two millions of people, or any number approaching to that measure of population, were ever brought together, in one city, since the creation of the world. One might have expected it in China, if any where; but the population of Pekin, we believe, falls much below that of London. Probably, there is a certain *maximum* of population, which is determined by the local circumstances of each situation, combined with accidental ones; and which may therefore vary in all. The reader will easily figure to himself some of these circumstances. Perhaps, LONDON may be capable of as great an extension, as any European city: since the plenty, and portable nature, of its fuel, is such, as to be afforded almost as cheap as in many of its provincial towns; the country around it, plentiful, and the communications easy; its port convenient for the importation of grain, from all the

world; and its fleets equal both to the transportation, and to the protection, of it. But even these advantages have their limits: besides, the habits of living require other articles of prime necessity, which can only be drawn from the produce of the country itself; and which, on the gradual extension of the city, must be brought from places more and more remote, until the prices become enhanced to an inconvenient, and insupportable degree.

We shall next inquire into the *geographical position* and *remains* of Babylon: the former of which, being, as we trust, very satisfactorily ascertained, by the authorities that will be adduced, (ancient as well as modern), there will, of course, be little doubt concerning the identity of the latter.*

I. By the traditions of the Oriental writers in general; and of the natives on the spot.

II. By the notices found in ancient authors, corresponding with those traditions: and

III. By the description of its remains, by modern travellers, compared with the ancient descriptions. Of these, in their order.

First, Of the traditions of the Oriental geographers, &c.

Abulfeda says† that Babel, anciently a celebrated city, which communicated its name to the whole province, (Babylonia,) has now nothing more than a village on its site. There are still to be seen the ruins of structures of the highest antiquity; which induces a belief that a great city stood there. He adds, that in ancient times the kings of *Canaan* resided there. Also, that *Hellah* stands on the *land* of *Babel*; as well as *Sura*, which is near to Kasr Ibn Hobeira.‡

* The reader is referred to Map, No. VI. at page 335, for explanations respecting the geographical situation of Babylon.

† See *Irak*; article *Babel*.

‡ Ib. articles *Hellah*, and *Kasr Hobeira*.

M. Otter, quoting the Turkish geographer, Ibrahim Effendi, says, that "*Babel* is *close* to *Hellah*: and on the left hand* (*i. e.* on the west) of the road, in going from Hillah to Bagdad."

The Arabs and inhabitants on the spot, not only give the name of BABEL to the district round about Hillah; but have also pointed out to many European travellers, (in particular Della Valle, Pere Emanuel, Niebuhr, and Beauchamp), vast ruins and heaps of earth or rubbish, on both sides of the Euphrates, as the remains of the ancient city, spoken of by Abulfeda, and other Eastern writers.

The Oriental geographers give the latitude of Babel from 32° 15′ to 32° 25′. The centre of it, admitting the ruin taken for the tower of Belus, to be the remains of that edifice, should be in latitude 32° 31′: since these remains are about three G. miles to the northward of Hillah, which by observation, is in about 32° 28′.†

M. Otter informs us that Hillah, according to the *Kanon*, is in latitude 32° 25′, which differs only three minutes from the report of M. Niebuhr.‡

SECONDLY, By the notices in ancient authors.

Herodotus says, that the fountains of bitumen at Is, from whence the bitumen, used in the construction of Babylon, was brought, were situated at eight journies above that city. (See the note to page 337.) There are some copious fountains of this kind, near HIT, a town on the Euphrates, at 128 G. miles above Hillah, reckoning the distance along the bank of the Euphrates. This distance answers to eight ordinary journies of a caravan, of 16 miles each, direct; and is at the same rate as the six journies, at which Hit is reported to lie from Bagdad, according to M. Niebuhr. There can be no doubt, therefore, that *Hit* is the place intended by *Is*; and which should have been written *It*.

The Theodosian tables allow 44 Roman miles between Seleucia and Babylon; and these produce 32 G. miles in direct distance,

* Vol. ii. p. 211. no doubt, falsely printed.

† M. Niebuhr says 32° 28′: M. Beauchamp, 32° 38′;

‡ Vol. ii. 209.

allowing for the inflexions of the road: for it can hardly be doubted that *road* distance was intended. The 44 MP. direct, would give 35 G. miles. According to Pliny, lib. vi. c. 26. Seleucia was built at the distance of 3 MP. from Ctesiphon; and on the opposite, or western bank of the Tigris: and the site of Ctesiphon is recognized by the remains of the stately palace of *Chosroes* (now named *Tauk Kesra*, or the Throne of Chosroes).* This palace is placed on the authority of M. Niebuhr, Mr. Ives, M. Beauchamp, and Abulfeda, at 19 G. miles to the south-eastward of Bagdad.† There can hardly be a shadow of doubt, respecting the site of Ctesiphon: for according to Abulfeda, Tauk Kesra stood within that of *Modain*, which he says was named by the Persians, *Thaisafun*,‡ meaning *Ctesiphon*; it being well known that *Modain*, by which is meant the *two cities*, was the collective name for Seleucia and Ctesiphon, amongst the Arabian conquerors of Persia. Ctesiphon was the *Parthian*, or as Abulfeda calls it, the *Persian* name; which is exactly the same thing.

These remains stand very near to the eastern bank of the Tigris, at a few miles below the conflux of the Diala river with the Tigris; as Pliny says that Ctesiphon and Seleucia, did, in respect of the *Median* Choaspes; which is evidently meant for the Diala. It agrees also with the position of the *Nahr Malka*, a royal canal, leading from the Euphrates into the Tigris: for it joined the latter, at Seleucia. A part of the bed of this canal, is still to be traced; and it existed so late as the time of the Bagdad Caliphate. It is said, also, by

* Abulfeda's Irak, article *Modain*, or *Madain*. Otter, Vol. ii. p. 37.—D'Herbelot, article *Noushirwan*. See also Irwin's and Ives's Travels; of which more in the sequel.

† M. Niebuhr furnishes the bearing. See his *Voyage en Arabie*, Vol. ii. p. 249, French edition. Abulfeda, article Modain, says, that it is a day's journey below Bagdad; which is equal to 18 Arabic miles, or 19 geographic. The distance on the Map, is reckoned from the *bridge* of Bagdad. See Map, No. VI. facing page 335.

‡ Also, *Isbanin*; according to Rieske's spelling. Otter writes *Tisbon*, and *Esbanin*. Vol. ii. p. 37.

M. Beauchamp, that the foundations of the walls of Seleucia may be traced. Of Ctesiphon, also, very considerable remains are visible.*

M. Beauchamp,† who visited both the site of Babylon, and of Tauk Kesra, says, that they are 12 leagues asunder: and also, that Tauk Kesra is 6 leagues from Bagdad. And, in effect, the particular ruin named by the natives, *Babel*, or *Makloube*, (taken for the tower of Belus,) is, on our construction,‡ 39 G. miles to the SSW of Tauk Kesra; answering to $12\frac{1}{3}$ farsangs, or Persian leagues. And this latter, is also 19 such miles from Bagdad, answering to six farsangs. But as the whole breadth of Seleucia, and half that of Babylon, is included in the 12 farsangs reckoned between Tauk Kesra and Makloube, it will be found that the 44 MP. of the tables, taken at 32 G. miles, *direct*, will agree to the interval of space, between the approximating parts of the two cities; which might probably be less than 32.

Strabo says (p. 738,) that Seleucia was built at the distance of 300 stadia from Babylon; and as these are to be taken at the rate of 700 to a degree, 26 G. miles will be the distance intended.

Pliny says (lib. vi. c. 26,) that they were 90 miles asunder: but this differs so much from all the other accounts, that we shall lay it out of the question.

Now the whole of these authorities, taken together, clearly point out the position of ancient Babylon to be at, or near, the present city of *Hillah*, or *Hellah*, which is known to have been built of the

* Mr. Ives describes very particularly the remains of Ctesiphon, or Modain, p. 290; as well as the stupendous palace of Chosroes, which marks its site. See also Irwin's Travels, Vol. ii. p. 351; and Otter, Vol. ii. p. 36.

† See the European Magazine for May, 1792, p. 338, *et seq.*

‡ The geographical construction alluded to, is founded on the materials furnished by a number of persons; and will be found in the Map, No. VI. The following are the persons whose works have been consulted: Niebuhr, Ives, Irwin, Otter, Evers, Thevenot, Della Valle, Texeira, Edrisi, Abulfeda, and Balbi.

bricks of the ancient city; and is said to stand on a part of its very site. For, it agrees in point of distance, from Ctesiphon and *Is*, or *Hit;* and is expressly pointed out by the Oriental geographers, and the people on the spot; and moreover retains its ancient name of *Babel.* And lastly, the identity of the position intended by the Oriental geographers, is proved by the latitude.

THIRDLY, By the descriptions of its remains, by modern travellers, compared with the ancient descriptions.

According to the description of this city, by Herodotus, it stood in a large plain: the exterior of it was a square, surrounded by a lofty wall; and it was divided into two equal parts by the Euphrates, which passed through it. In the centre of one of these divisions, stood the temple and tower of Belus; in the other, the spacious palace of the king. We have already spoken of the extraordinary dimensions of the wall that surrounded Babylon; which are variously given, from 480 to 360 stades. The first of these numbers is (as we have seen), from Herodotus, whose measures both of the *enceinte* and every other part, are enormous and improbable; occasioned, as we are ready to believe, by corruptions of the text. As an instance of the latter, he is made to say, that reeds were placed at every 30th course of brick-work, in the Babylonish buildings; but modern travellers find them at every 6th, 7th, or 8th course, in Aggarkuf; apparently a Babylonish building: and M. Beauchamp found them at *every* course, in some of the buildings, in Babylon. We have therefore disregarded his numbers on the present occasion. Even the dimensions given by Strabo are beyond probability, as far as respects the *height* of the walls; which he gives at 50 cubits, or 75 feet. The thickness, 32 feet, if meant of an earthen rampart, faced with brick, falls short of our modern ramparts, which are about 48 feet at the base; the parapet alone being 18 feet, yet leaving an ample space for two carriages to pass each other; which is the most that Strabo says of the space, on the wall of Babylon. And as a *cannon proof* parapet was not required,

at Babylon, *several* carriages might have gone abreast on a rampart of equal solidity with ours. There is, therefore, nothing extraordinary in this particular.*

With respect to the two principal structures in this stupendous city, the *castellated palace* (called also by some, the citadel), and the *temple* and *tower* of *Belus*—the general description of the first, is given by Diodorus; of the latter, by Herodotus. They are both wonderful in their kind; the first for the extent of the ground which it covered, and which is represented to have been a square of near a mile and half:† the other for its bulk and height; its base alone being said to be a *cubic stade*, surmounted by seven towers,

* Respecting the height and thickness of the walls of Babylon, there are great variations, in the different reports. Probably, we ought to receive the accounts of the later writers, as the most correct; for the same reason that we gave a preference to their report of the extent of the city. The Macedonians, and latter Greeks, had more leisure to examine and measure the objects that presented themselves, than casual observers. Pliny seems to have copied Herodotus; whilst Strabo probably followed the Macedonian reports. Diodorus also makes a striking distinction between the reports of the *early*, and the *later* writers. It may have been, that 50 cubits, or about 75 feet, was the height of the city wall, measured, perhaps, from the bottom of the ditch; and the thickness, 32.

The following are the statements of the different authors, respecting the measures of Babylon.

	Circuit in Stades.	Height of the Walls.	Breadth of the Walls.
		Cubits. Feet.	Cubits. Feet.
Herodotus - -	480	200 = 300	50 = 75
Pliny, 60 MP. -	480	———	———
Ctesias - -	360	‡ 300	———
Clitarchus -	365	———	———
Curtius - -	368	100 = 150	— 32
Strabo - -	385	50 = 75	— 32

† Descriptions of the palaces will be found in Diodorus, lib. ii. c. 1. And a general idea of the extent and position of the walls of Babylon, as also of the relative situations of the public buildings, will be found in the Map opposite page 335.

‡ Fifty *orgyia* are given, it should probably be fifty cubits.

which successively diminished as they rose. More will be said concerning this tower, in the sequel; when, it will appear, that there must either be an error in the text of Herodotus, in this place; or that he had been grossly deceived, in point of information.

Herodotus has not said, in which of the divisions of the city, the temple and palace, respectively, stood; but, it may be pretty clearly collected from Diodorus, that the temple stood on the *east* side, and the palace on the *west*: and the remains found at the present day, accord with this idea. For, Diodorus describes the GREAT palace to be on the *west* side, the LESSER palace on the *east*; and there also, was the brazen statue of *Belus*. Now, he makes such a distinction between the two palaces, as plainly to shew that the one on the west, was to be regarded as THE PALACE; and consequently was *the* palace intended by those who place a palace, to answer on the *one* side, to the temple of Belus on the *other*. It is also to be collected from Herodotus, Clio, 181, that the palace and the citadel were the same: he says, " the royal palace fills a large and strongly defended space," in the centre of one of the divisions.

Diodorus says, that the temple stood in the centre of the *city*; Herodotus, in the centre of *that division* of the city in which it stood; as the palace in the centre of *its* division. But the description of Diodorus is pointed, with respect to the fact of the palace being near to the bridge, and consequently to the river bank: and he is borne out by the descriptions of Strabo, and Curtius, both of whom represent the hanging gardens to be very near the river: and all agree, that they were within, or adjacent to, the square of the *fortified palace*.* They were supplied with water, drawn up by engines from the Euphrates. Consequently, the palace should

* Strabo, p. 738. He says, that " the Euphrates flows through the middle of the city; and the pensile gardens are adjacent to the river; from whence they were watered."

have stood nearer to the centre of the city itself, than to that of the division, in which it stood; since the division was more than four miles broad: and it appears natural enough that the princess should avail herself of the prospect of a noble river, a stadium in breadth, flowing near the palace, instead of withdrawing two miles from it.* And it appears probable, that the temple was also at no great distance from the opposite bank of the river; that is, the *eastern* bank.†

A presumptive proof of the supposed position of the temple, should the words of Diodorus be regarded as ambiguous, is, that

* Diodorus describes a *vaulted passage*, under the bed of the Euphrates, by which the queen (SEMIRAMIS) could pass from one palace to the other, on different sides of the river, (which was a stadium in breadth; according to Strabo, p. 738.) without crossing it. This serves at least to shew, that the palaces were very near to the river banks.

At a time when a TUNNEL of more than half a mile in length under the THAMES, is projected, it may not be amiss to mention the reported dimensions of the tunnel made by Semiramis, under the Euphrates; which, however, was no more than 500 feet in length, or less than $\frac{1}{5}$ of the projected tunnel, under the Thames. That of Semiramis, is said to have been 15 feet in breadth, and 12 in height, to the springing of the arch; perhaps, 20 in all. The ends of the vault were shut up with brazen gates. Diodorus had an idea that the Euphrates was 5 stadia in breadth. See lib. ii. c. 1.

The Euphrates was turned out of its channel, in order to effect this purpose. Herodotus, who is silent concerning the tunnel, says, that the river was turned aside, in order to build a bridge. Diodorus describes a bridge also. There is an absurd story told in both these historians, respecting the disposal of the water of the river, during the time of building the bridge, &c. According to them, the water was received into a vast reservoir, instead of the obvious and usual mode, of making a new channel, to conduct the river clear of the work constructing in its bed, into the old channel, at a point lower down.

† Here it is proper to remark, that there is this specific difference between the descriptions of Herodotus and of Diodorus: the first says, that the centres of the two divisions were occupied, respectively, by the palace and temple; but Diodorus, by *two* palaces: and although he speaks of the temple also, yet he does not point out its place. The square of the temple itself was two stadia.

the gate of the city, named *Belidian*, and which we must conclude to be denominated from the temple, appears pretty clearly to have been situated on the *east* side. When Darius Hystaspes besieged Babylon (Thalia 155, *et seq.*) the *Belidian* and *Cissian* gates were opened to him, by Zopyrus; and the Babylonians fled for refuge to the temple of Belus; as, we may suppose, the nearest place of security. The Cissian or Susian gate, must surely have been in the eastern front of the city, as Susa lay to the east; and, by circumstances, the Belidian gate was near it; as the plan was laid that *Persian* troops were to be stationed opposite to these gates: and it is probable that matters would be so contrived, as to facilitate, as much as possible, the junction of the two bodies of Persian troops that were first to enter the city, as a kind of forlorn hope.

It may also be remarked, that the gates at which the feints were made, previous to the opening of the Belidian and Cissian, were those of Ninus, Chaldea, and Semiramis. The first, towards Ninus or Nineveh, must have been, of course, to the *north*; and the Chaldean, to the *south*: and perhaps that of Semiramis to the *north-east*, between the Belidian and Ninian; as that of Cissia to the south-east, between the Belidian and Chaldean. As it is unquestionable, that the Ninian and Cissian gates, if not the Chaldean, were in the eastern division of Babylon, since the countries from whence they are respectively denominated, lie to the east of the Euphrates, it may be collected that the attack was confined to that division alone (and what army could invest a fortress 34 miles in circuit?) And if this be admitted, the Belidian gate, and temple of Belus, must have stood on the east side of the Euphrates.*

* Herodotus says, that there were 100 gates in the circuit of the city; which being a space of 34 miles, allows three gates to each mile. It is certain, that in modern fortresses, the communications with the country are not so numerous, in proportion to their extent: nor on the other hand, are they so far asunder as to have

Taking for granted, then, that the tower of Belus stood in the eastern division of the city, we shall examine the descriptions of it.

It appears that none of the Greeks who describe it, had seen it, till after it had been either ruined by Xerxes, or gone so far to decay, that its original design was not apparent. Herodotus himself, therefore, admitting that he viewed it, might not be a perfect judge of the design, or of the original height of the superstructure: and this may account for his exaggerated description; perhaps imposed on him, by some of the citizens of Babylon, long after the upper stories were fallen to ruin. The vast mass of rubbish, mentioned by Strabo, seems to prove this.

All the descriptions are very brief; and Strabo is the only one who pretends to give the positive measure of the elevation of the tower; though all agree in stating it to be very great. The square of the temple, says Herodotus, was *two* stadia (1000 feet); and the tower itself *one* stadium; in which Strabo agrees. The former adds, "In the midst, a tower rises, of the solid depth and height of one stadium; upon which, resting as a base, seven other turrets are built in regular succession. The ascent is on the outside, which, winding from the ground, is continued to the highest tower; and in the middle of the whole structure, there is a convenient resting-place. In the last tower is a large chapel, in which is placed a

only three in a front of $8\frac{1}{2}$ miles. Probably the rest might have been smaller portals, which were shut up, during a siege.

It may indeed be concluded, that there were fewer gates and communications with the country, on the west, than elsewhere; for it may be recollected, that Alexander wished to enter the city by the *west*, (after his return from India), in order to avoid the evil foretold by the soothsayers; but was compelled to give up the attempt, by reason of the marshes and morasses on that side. (See Arrian, lib. vii.) We are told also by Diodorus, lib. ii. c. 1. that the number and depth of the morasses round about Babylon, made a smaller number of towers, in the nature of bastions, necessary for the defence of the wall. There were only 250 of these, in the whole circuit of 34 miles.

couch, magnificently adorned; and near it, a table of solid gold, but there is no statue in the place." Clio, 181. He afterwards (183.) describes another chapel, lower down in the structure, with golden statues, tables, and altars: all of which appear to have been forcibly taken away by Xerxes, who also put the priest to death.

Strabo (p. 738.) says, that the *sepulchre* of Belus was a *pyramid* of *one stadium* in height; whose base was a square of like dimensions; and that it was ruined by Xerxes. Arrian agrees in this particular; and both of them say, that Alexander wished to restore it, that is, we may suppose, both the tower and temple, but that he found it too great a labour: for it is said, that ten thousand men were not able to remove the rubbish, in the course of two months. Arrian calls it a stupendous and magnificent fabric; and says that it was situated in the *heart* of the city. Diodorus, lib. ii. c. 1. says, that it was entirely gone to ruin, in his time; so that nothing certain could be made out, concerning its design; but that it was of an exceeding great height, built of brick, and cemented with bitumen; in which the others generally agree. Diodorus adds, that on the top, was a statue of Belus, 40 feet in height; in an upright posture. It has been the practice to make the statues placed on the tops of buildings, of such a height, as to appear of the natural size, when viewed from below: and if this rule was followed in Babylon, the tower should have been of about the height of 500 feet; for the statue itself, in order to be viewed from a convenient station, clear of the base; and admitting the retreats of the stories to be regular, must have been from 600 to 650 from the eye below: and at that distance, a statue of 40 feet high would have appeared nearly of the size of a man.

It is impossible to suppose, for a moment, that the statement of the height and fashion of the tower, as it appears in Herodotus, can be true, since it describes the *base* of it to be a *solid cube* of a *stadium*, or 500 feet; on which arose seven other towers, diminishing gradually to the top. Let any one, the least conversant in the dimen-

sions of buildings, revolve in his mind the idea of a perpendicular wall 500 feet in height, and as much in length! And this, one side of a base only, for a superstructure that must be supposed to bear some proportion to it! Surely Herodotus wrote *breadth* and *length*, and not breadth and *height;* which would agree with Strabo; and then we are left to conceive (as Strabo also says), a pyramid, consisting of the eight stories; or base with seven retreats, described by Herodotus; and consequently of a form and height, not very different from those of the great pyramid at Memphis; only that the *retreats* were wider, and less numerous; and the top, perhaps, flatter.*

That it was exceeding lofty, must be conceived by the mode of expression of those who describe it: and if it be admitted that the whole fabric was a stadium in height, as Strabo says, and as appears probable; even this measure, which is about 500 feet, must be allowed to be a vast height, for so bulky a structure raised by the hands of man; for it is about 20 feet higher than the great pyramid of Memphis; and would exceed the loftiest pile in this Island (Salisbury steeple) by 100 feet.† But as the base of the great pyramid is about 700 feet square, or nearly once and a half that of the tower of Belus, the solid contents of the pyramid must have been much greater.‡ The Greeks with Alexander, who saw and

* There are pagodas in India, particularly in the Peninsula, that answer precisely to this kind of pyramid. The great pagoda in Tanjore, which has even more stories than the tower of Belus, comes up exactly to our idea. See the drawing of Tanjore, published by my friend Mr. Dalrymple, in 1776.

† It is said by Dr. Greaves, that the old steeple of St. Paul's, previous to the fire of 1666, was 520 feet in height; which was, of course, 40 higher than the pyramid; 20 higher than the tower of Belus.

‡ It is well known that travellers differ exceedingly in their reports of the dimensions of the great pyramid, owing to the impossibility of measuring the sides of its base; which are in a great measure covered with heaps of sand drifted against them, by the wind: so that the corners alone, remain naked to the foundations. Our countryman, Dr. Greaves, a mathematician and astronomer, about the middle of the

described the tower, had also seen the pyramids: but they make no comparison between either their bulk, or their altitudes. The tower, from its having a narrower base, would *appear* much more than 20 feet higher than the pyramid.* The space occupied by the mass of ruins, taken for the tower of Belus, appears, as far as can be judged, to agree with the idea that may be collected from the descriptions of it; considering that, as so great a portion of it was formed of earth, very much of the mass must have been washed down by the rain; which, according to Della Valle and Beauchamp, has worn deep ravines in its sides. Much also, must have been dissipated, in dry seasons, by the winds.

With respect to the form of the tower—some have surmised, that the winding path on the outside, gave occasion to the report of eight towers placed one above the other: but had it derived its character from this circumstance alone, it would have had a very different

last century, measured the great pyramid by means of a base and quadrant; and affirms that the sides of the pyramid are 693 feet of the English standard, and the diagonal precisely the same; so that each of the four *reclining sides* of it form a perfect equilateral triangle, bating the top, which terminates in a plain surface of 13 feet square. He also affirms, that the perpendicular altitude of the same pyramid, is 481 feet.

Another English gentleman (Mr. Graves) measured the same pyramid a few years ago. His report is 727 to 728 feet, each side; and the diagonal 683; giving an altitude of 450 feet, only.

Had M. Niebuhr *measured* the pyramid, we should have listened to his report with the attention and respect due to his authority: but he only *paced* it. However, the result, as it respects the base, approaches to Dr. Greaves's. For he reckoned 142 of his paces, which he calculates at 5 Danish feet each, giving a total of 710 feet; equal to about 685 English. If we take his pace at 5 Roman feet, the result will be much the same. But he sinks the altitude very much below either of the others.

It is proper to remark, that although the great pyramid is somewhat larger at the base, than the second, yet that the latter, in M. Niebuhr's idea, is the highest of the two, being built up to a point; whereas the greater terminates with a plane of 13 feet square.

* The reader is referred to the Map opposite page 335, where a comparison is made between the section of the pyramid, and that of the tower.

appearance from that of a regular pyramidal form, as is described by Strabo: although a winding path might have been so contrived, as to preserve the regularity of the figure.

Authors differ also, in respect of the manner in which the tower was completed, at the top. Herodotus says, that it terminated in a spacious dome, in the nature of a chapel, or temple; but others say, an observatory. Diodorus says, that the statue of Belus was at the top: Herodotus, lower down the building. Who shall decide? Xerxes is said to have removed the statues; so that of course, Herodotus could not have seen them.

Della Valle, when at Bagdad, in 1616, (see his Travels, Vol. ii.) had the curiosity to visit the site of Babylon; which is well known to the people of those parts, as well by its name of BABEL, as by the traditions concerning it. He found, at the distance of about three miles to the northward of Hillah, and at no great distance from the eastern bank of the Euphrates, a vast heap of ruins, of so heterogeneous a kind, that, as he expresses it, he could find nothing whereon to fix his judgment, as to what it might have been, in its original state. He recollected the descriptions of the tower of Belus, in the writings of the ancients, and supposed that this might have been the remains of it. He paced its circumference, and found it to be 1134 of his ordinary steps, which cannot well be rated lower than $2\frac{1}{4}$ English feet each; but may have been $2\frac{1}{2}$. At the former rate, the circuit would be 2552 feet; whence the dimensions of each side of the ruin, should have been 638 feet; but he himself reckons that number of steps, equal to $\frac{1}{4}$ of a league. An Italian league is about $\frac{4}{5}$ of an English league, of three statute miles; consequently, the circuit would be 900 yards, or somewhat more than half an English mile. Each side then, would be 660 feet; requiring nearly a mean between $2\frac{1}{4}$ and $2\frac{1}{2}$, for the length of each step; which appears probable; the Roman *pace*, or *double* step, being about 4 feet 10 inches of our standard.

There can be little doubt, but that the base has been increased by

the falling ruins; although it must be supposed, that such parts of them as consisted of burnt bricks, have been removed, as most of the other ruins of the same kind have been; and as even the foundations of the city walls, and of other structures, in Babylon, continue to be, to this day; and that for the purpose of building houses, in other places. So that, at all events, the base of the ruin, must far exceed that of the original fabric: and, by the way, it may be concluded, that, if the Greeks found the tower of Belus, when in such a state, as that the dimensions of its base could be ascertained, a stadium in length and breadth, the standard of the stadium must have been nearer 500, than 600 feet.

Indeed, it can hardly be supposed, even when the furnace-baked bricks of the ruin, were removed, that the remaining matter would form a mass of less than 660 feet on each side; supposing it to have been 500, originally. It may be concluded, that the uppermost stories consisted more of masonry, than earth; but the lower, chiefly of earth, which was retained in its place, by a vast wall of sun-dried bricks, the outer part, or facing of which, was composed of such as had undergone the operation of fire. Strabo says, that the sides of the tower were of *burnt* bricks.

Della Valle's description of this vast ruin contains much information, and also much internal evidence, concerning the position and dimensions of the tower of Belus. He goes on to say, that the mountainous ruin, in question, like most other ruins, does not present a regular figure, but is of different heights in different places: and that the highest part of the palace at Naples, is not so high as some parts of this ruin. In some places, the sides are steep and craggy; in others, they form a slope, that may be ascended; and there appeared the traces of torrents that had been occasioned by the running off of the rain water. On the top, he saw what might be taken for *caverns* or *cells*; but they were in so ruinous a state, that he could not judge whether they made a part of the original design,

or were excavated, since: in fact, that the whole appeared like a mass of confusion; none of its members being distinguishable.

With respect to the materials, he found that two sorts of bricks had been made use of; the one having been simply dried in the sun; the other baked in the furnace. Of the latter sort, which seem to have been employed only in such parts of the fabric, as were either the most exposed to the weather, or which required a greater degree of solidity than the rest; there were by far the smallest proportion; and with *these*, a cement, either of lime, or of bitumen, had been used: but the parts which he dug into, were, generally speaking, formed of sun-dried bricks. It is obvious, however, that his researches in this way, must have been very much limited, both as to the number of places, and the depth to which he penetrated. These bricks, (if they deserve the name,) were laid in *clay* mortar only; and with this, or with the bricks themselves, broken reeds, or straw, had been *mixed.* He is, however, silent concerning any *layers* of reeds; although such have been observed by M. Beauchamp, in this place; and by several others in the ruin of *Aggarkuf*, near Bagdad.

He observed the foundations of buildings *around the great mass*, at the distance of 50 or 60 paces: but beyond that, to a great distance, the whole was a clear, and an even plain. These foundations appear to prove a great deal, respecting the temple and tower of Belus. For if the 50 or 60 paces on both sides of the ruin, be reckoned equal to 260 feet, and the base of the ruin 660, we have a total of 920 feet; or only 80 feet short of the *two stadia*, which, Herodotus says, was the dimensions of the square of the inclosure of the temple of Belus; in which the pyramidal tower stood. May it not then be suspected, that the foundations, are a part of those of a range of buildings, which formed the inclosure of the area in which the tower stood; and which buildings in effect, constituted the temple itself?

Although Della Valle's route must have led him across the whole extent of the eastern division of Babylon, yet he takes no notice of any remains, save those already mentioned. M. Niebuhr and M. Otter, did not indeed traverse the very *same* ground, because they took the direct route from Hillah to Bagdad, which leads to the eastward of the ruins; but which, notwithstanding, crosses almost the whole length of the site of Babylon, between the supposed tower of Belus, and the east front of the city wall. See Map, at p. 335.

By the information collected by these gentlemen, at Hillah and elsewhere, it is certain that other remains of walls and edifices, are in existence, although enveloped in woods or coppices. M. Otter was told that the site of Babylon was generally covered with wood: (Vol. ii. p. 211.) and M. Niebuhr, that amongst the *hillocks* or *eminences* formed by its ruins, are found, here and there, trees that appear to be *very ancient*, as having been left untouched by the inhabitants; although (as he observes) from the gulf of Persia to that neighbourhood, no other kind of trees, except date and other fruit-trees, are to be seen.*

* The *hanging* gardens (as they are called), which had an area of about $3\frac{1}{2}$ acres, had trees of a considerable size growing in them: and it is not improbable that they were of a species, different from those of the natural growth of the alluvial soil of Babylonia. Curtius says, that some of them were eight cubits in the girth; and Strabo, that there was a contrivance to prevent the large roots from destroying the superstructure, by building vast hollow piers, which were filled with earth to receive them. These trees may have been perpetuated in the same spot where they grew, notwithstanding that the terraces may have subsided, by the crumbling of the piers and walls, that supported them; the ruins of which may form the very eminences spoken of by M. Niebuhr; and which are covered with a particular kind of trees. Such a mass of ruins could not but form a very considerable eminence. See the descriptions of the gardens, in Diodorus, lib. ii. c. 1.; Strabo, p. 738.; and Curtius, lib. v. c. 1. Josephus (*contra* Ap. lib. i. 19.) quotes Berosus, who also mentions them.

There is little doubt but that the gardens contained at least $3\frac{1}{2}$ acres. Diodorus says, they formed a square of 400 feet; Curtius, that they were supported by 20 walls, 11 feet distant from each other; which spaces, together with the thickness of

M. Niebuhr was also informed (it is to be regretted that he could not have been enabled to visit the ruins of Babylon generally), that the principal ruins, answering to those seen by Della Valle, were situated about three miles to the NNW of Hillah. He says also, that such parts of the walls, as stood above ground, have long ago been carried away: but that the foundations continue to be *dug up*, and are carried to Hillah. And that in the tract of BABEL, on both sides of the Euphrates, are seen many eminences that are dug into, for bricks; as well as heaps of bricks themselves. These bricks, he says, are *a foot square*, and remarkably well baked; and having originally been laid in *matter* that had no degree of tenacity, they were easily separated; and that without breaking them. Vol. ii. page 235. The caravanserai of Hillah, as he was told, was built, at no very distant period, of those bricks: and the town itself in the 11th century, according to M. Otter.

M. Beauchamp, Vicar General of Babylon, and Corresponding Member of the French Academy of Sciences, visited these celebrated ruins, several times within the last twenty years. Of all the European travellers, none seems to have had so good an opportunity of examining them, as M. Beauchamp; he having, apparently, prosecuted his inquiries at his fullest leisure, and under a protection that left his attention undisturbed: advantages that none of the others seem to have possessed. Nor was his attention confined to this spot, only; for he visited many other places both in Mesopotamia and Persia. His description of what he saw in the eastern

the walls, will at least make up 400 feet. Strabo says, four jugera; but the just mentioned dimensions require more than five. They had a view over the city walls, and were said to be 50 cubits high. Finally, they were said to have been made, to gratify the whim of a mistress; and it must be confessed, that such fancies appear more appropriate to such a character, than to the sober wishes, and rational modes of expence, that may be expected in a queen consort; at least one who partook of the patriotism of her husband; and who would by all means prevent a monument of his folly from being exhibited aloft, to the view of the surrounding country.

quarter of Babylon, is here given the last in order, of the different accounts, because it seems on the whole, to convey the most information of any, considered in a general point of view; although it falls short of some of the others, in respect of particulars. It also supplies certain defects of the other descriptions. Still, however, he has rather excited, than gratified, our curiosity.

We have inserted in the text, such parts only of M. Beauchamp's descriptions, as apply immediately to our subject: and the remainder is thrown into the form of notes. This arrangement has been made, in order that the reader's attention may not be diverted from the main object; leaving him to examine the curious facts stated in the notes, afterwards.*

"The ruins of Babylon are very visible a league north of Hellah. There is, in particular an elevation which is flat on the top; of an irregular figure; and intersected by ravines. It would never have been suspected for the work of human hands, were it not proved by the layers of bricks found in it. Its height is not more than 60 yards. It is so little elevated, that the least ruin we pass in the road to it, conceals it from the view.† To come at the bricks, it is necessary to dig into the earth. They are baked with fire, and cemented with *zepht*, or bitumen: between each layer are found *osiers*.

"*Above* this mount, on the side of the river, are *those immense ruins*, which have served, and still serve, for the building of Hellah, an Arabian city, containing 10 or 12,000 souls. Here are found those large and thick bricks, imprinted with unknown characters, specimens of which I have presented to the Abbé Barthelemy. This place, and the mount of Babel, are commonly called by the Arabs

* We have not been able to obtain a copy of the original, from whence the translation of M. Beauchamp's correspondence, inserted in the European Magazine for 1792, was made.

† This, however, is the mass of ruins, which Della Valle describes: and which we take for the remains of the tower of *Belus*.

Makloube, that is, turned *topsy-turvy*. I was informed by the master-mason employed to dig for bricks, that the places from which he procured them were large thick walls, and sometimes chambers. He has frequently found earthen vessels, engraved marbles, and, about eight years ago, a statue as large as life, which he threw amongst the rubbish. On one wall of a chamber he found the figures of a cow, and of the sun and moon, formed of varnished bricks.* Sometimes, idols of clay are found, representing human figures. I found one brick on which was a lion, and on others a half-moon in relief. The bricks are cemented with bitumen, except in one place, which is well preserved, where they are united by a very thin stratum of white cement, which appears to me to be made of lime and sand.

" The bricks are every where of the same dimensions, one foot, three lines square, by three inches thick.† *Occasionally*, layers of osiers in bitumen‡ are found, as at Babel.

* Diodorus, lib. ii. c. 1, says, that there were drawn *in colours*, on the bricks, used in building the wall of the great palace, various animals; also a representation of a general hunting of wild beasts, &c. &c. The bricks were painted before they were burnt.

† " Most of the bricks found at *Makloube* have *writing* on them: but it does not appear that it was meant to be read, for it is as common on bricks buried in the walls, as on those on the outside. I observed that each quarter has a peculiar impression: I mean, that we find but one series of letters, and arranged in the same manner, in one place.

" Besides the bricks with inscriptions, there are solid cylinders, three inches in diameter, of a white substance, covered with very small writing, resembling the inscriptions of Persepolis, mentioned by Chardin.—Black stones, which have inscriptions engraved on them, are also met with. These, I was told, were found at *Broussa*, which is separated from Makloube by the river." (From the text of M. Beauchamp.)

‡ " The quantity of bitumen that must have been employed in building Babylon, is scarcely credible. Most probably it was procured from *Hit* on the Euphrates, where we still find it. The master-mason told me, that he found some in a spot

" The master-mason led me along a valley, which he dug out a long while ago, to get at the bricks of a wall, that, from the marks he shewed me, I guess to have been 60 feet thick. It ran perpendicular to the bed of the river, and was probably the wall of the city. I found in it a subterranean canal, which, instead of being arched over, is covered with pieces of sand-stone, six or seven feet long, by three wide. These ruins extend several leagues to the north of Hellah, and incontestably mark the situation of ancient Babylon.*

" I employed two men for three hours in clearing a stone which they supposed to be an idol. The part which I got a view of, appeared to be nothing but a shapeless mass: it was evident, however, that it was not a simple block, as it bore marks of the chisel, and there were pretty deep holes in it; but I could not find any inscription on it. The stone is of a black grain; and from the large fragments of it found in many places, it appears that there were some monuments of stone, built here. On the *eastern side*, I found a stone nearly two feet square, and six inches thick, of a beautiful *granite*, the grain of which was white and red. All these stones must have been brought from some distance, as this part of the desert contains none. On the *same side* of the city, as I was told by the master-mason, there were walls of varnished bricks, which he supposed to have been a temple." †

which he was digging, about 20 years ago; which is by no means strange, as it is common enough on the banks of the Euphrates.§ I have myself seen it on the road from Bagdad to Juba, an Arabian village, seated on that river." (From M. Beauchamp.)

* The reader may recollect that we have assumed 8½ British miles, or about three French leagues, for the square of the inclosure of Babylon.

† I imagine medals must be found in the ruins of Babylon, if sought after: but

§ We may remark on this report of the mason's, that Diodorus says, that great quantities of bitumen flow out of the ground, at Babylon: that these springs supplied it for the building of the city; and that it was in such plenty, that it was even used for fuel; (lib. ii. c. 1.) Herodotus, however, brings it from *Is*, or *Hit*.

These are all the notices that we have been able to collect, respecting the ruins of that quarter of Babylon, which lies on the east of the Euphrates: and before we adduce the very brief description of what has been seen on the west, it may be proper to make a few observations on the reports of Della Valle and Beauchamp.

It would appear that all M. Beauchamp's descriptions relate to the eastern division: for he says, that "*Broussa*† is separated from *Makloube* by the river" (Euphrates): and it is well known that Broussa lies on the west side: and therefore Makloube, the name given to that part of the ruins of Babylon seen by him, must stand on the *east* side, of course. It is certain, that in two places, M. Beauchamp speaks of what he *saw* on the *east side*, which might imply that he likewise saw something on the *west*, also: we therefore wish that he had expressed himself either more clearly, or more fully, in this respect.‡

the Arabs pick them up, only when they know Europeans are desirous of them. One of copper was brought me whilst I was there. In comparing it with different Parthian medals, I observed that all the heads of the latter bore a kind of mitre; that of the former, a crown of flowers.*——

"The master-workman informed me that there were three cities in which antiquities are found: Babel, or Makloube; Broussa, two leagues SE of Hellah, in the desert; and Kaïdes, *(Al Kadder)* still farther distant than Broussa. I was told that many marble statues were found in the latter, but it is dangerous to go thither, without a strong guard." (From M. Beauchamp.)

† *Broussa*, called by Arabs *Boursa*, is supposed to be *Borsippa* of Strabo (739.) and of Justin (lib. xii. c. 13.); to which place Alexander retired, when he was warned by the Chaldeans not to enter Babylon by the *east*. According to Josephus, *(contra Ap.* lib. i. c. 20.) it ought to be near to Babylon. It appears, from Strabo, to have been a place of great celebrity, as a place of worship. Ptolemy has *Barsita*, but more remote from Babylon. Broussa is only six miles to the south-east of its site.

‡ We here speak, under correction, having never seen any account, save the translation, in the European Magazine; of which, however, it may be conceived, there can be little reason to doubt the accuracy.

* In the army of Xerxes, the *Cissians*, or *Susians*, wore *mitres*, but not the Medes or Persians. Polym. 62.

As for Della Valle, we may clearly perceive that he visited the eastern quarter, only.

It may be observed that M. Beauchamp's description of the mount of ruins (or tower of Belus, as we will use the reader's permission to call it,) agrees, as far as it goes, with Della Valle's. The latter gives a positive idea of the *extent* of its base, the former of its *height:* by which we take it to be a square of 640 to 660 English feet, by about 200* in height, in its present ruined state: and conclude that its base may have been originally a square of 500 feet, and its altitude the same: so that it contained less matter than the great pyramid.

With respect to the nature of the bricks in this fabric, these gentlemen do not altogether agree; M. Della Valle saying that they were of two sorts, *sun-dried* and *furnace-baked:* but M. Beauchamp describes but one sort; that is, the latter. He says, however, that in order to get at these, it is necessary to dig into the *earth*, where they are found in layers: the *earth*, therefore, if really *such*, must have composed a part of the fabric: but may not this earth be the mass, which Della Valle describes as being composed of *sun-dried bricks?* It is certain that the ruin named *Aggarkuf*, near Bagdad, which seems to possess the characteristic of a Babylonish building, (as having reeds between the courses,) is composed *chiefly* of sun-dried bricks. Every traveller who has described it, seems to have considered its bricks, as having been simply dried in the sun. M. Niebuhr and M. Evers,† are positive as to this point: and the reports of Ives and Taverniere imply it. But Mr. Ives observed that those which remained in the building, were *softer* than those which lay scattered about, amongst the rubbish, at the foot of the

* M. Beauchamp says 180 feet. These of course, must be taken for French, and are equal to about 192 English feet: or say, as it is a matter of guess, 200.

† This gentleman published a Journal of his Voyage from India to England, in 1784.

ruin. We therefore conclude that *two sorts* of bricks were used; as Della Valle also reports of the tower of Belus; for it cannot well be supposed that sun-dried bricks would become harder by lying exposed to the weather. And indeed it appears extraordinary, altogether, that bricks, simply dried in the sun; or, in other words, *clods of earth*, should preserve their form, and not moulder down nearer to a natural slope, like other earth, in a course of so many ages.

It appears equally unaccountable, that Della Valle should have overlooked the layers of reeds, osiers, or whatsoever was placed between the courses of masonry, in the tower;* as that Beauchamp should not have observed the *sun-dried bricks*, and *clay mortar*, in the same place. Yet we cannot doubt but that all the three, exist, amongst the ruins in question. It is no new observation, that one man observes one thing, and another, another.

According to Strabo, p. 738, the Euphrates was only a *stadium* in breadth, at Babylon; which account has been cavilled at. Texeira, who crossed it in a boat, at Musseib, about 20 miles above the site of Babylon, guessed it to be about 200 paces wide; or from 450 to 500 feet. M. Niebuhr, had a better opportunity of ascertaining its width, at Hillah, a part of the site itself, by means of the bridge of boats there. He says it is 400 feet (if Danish, then about 390 English) wide, at that place; which is even below Strabo's report. Accordingly, when we read of the vast breadth allowed to the Euphrates, by Diodorus (who says that the bridge of Babylon was five stadia in length); and by Rauwolf, Shirley, and others, we must not receive their testimonies, as founded on fact. As to its breadth at Thapsacus, or any other place, higher up, it can be no guide in forming a judgment of it, in this part; for here it is very

* He speaks only of broken reeds, or straw, in the mud cement, between the sun-dried bricks.

deep;* there, *shallow*: and although it is very wide at Thapsacus, it was exceedingly narrow near Zeugma, and Roumkala.†

Della Valle informs us that the *particular* course of the Euphrates is from *west* to *east*, through the plain of Babel; by which we should understand that it was such, near the ruin of the tower of Belus: and by what he says of it, higher up, (for he coasted the river bank, for more than 30 miles above the site of Babylon,) as well as by the information of Texeira, the Euphrates forms some very deep windings, in this part. Its general course, for 40 miles above, and the same distance below, Babylon, is from NNW $\frac{1}{2}$W to SSE$\frac{1}{2}$E: but more particularly, at, and above that site, it is from NNW to SSE.

Below Hillah, Mr. Ives's party traced it, and found its course to be remarkably serpentine. (See the Map opposite page 335.) And this being the effect of the current of the river, on a loose soil, its bed must have been subject to great changes: so that, in its course of eight or nine miles through the city, a vast expence must have been required, to protect the banks from the depredations of the stream. And we are accordingly told, by Herodotus, Diodorus, and Curtius, that a provision was made for this purpose, by a strong wall cemented with bitumen, in the nature of an embankment, on both sides. Herodotus moreover tells us, that because the city was endangered by the rapid current of the river, (perhaps rendered more rapid by its being straitened by artificial works, in its passage through the city,) a part of its waters were drawn off by an artificial canal, or canals, far above the city: so that during

* Texeira was told that it was 30 feet deep, at Musseib. Hence, it may be concluded, that it was at least, *very deep* there.

† It may be inferred, from the circumstance of Alexander's ordering a bason to be dug, at Babylon, for his fleet, that there was not room in the river for it; (Arrian, lib. vii.) In effect, the present state of the Euphrates at the site of Babylon, shews what it must have been, anciently: or indeed it ought to be rather larger there *now*, than anciently; since the canals that were drawn from it to the Tigris, no longer exist.

the floods, the river of Babylon could only be considered as the *principal channel* of the Euphrates: and thus might carry nearly the same body of water at all seasons.*

We are not told in positive terms, whether or not the four sides of Babylon, fronted the four cardinal points of the heavens. The only notice concerning it, is, that Diodorus says, "the Euphrates runs to the *south*, through the *midst* of Babylon:" and which may, nevertheless, be meant only in a general sense. Those however, who have indulged their fancies in making a plan of that city, have not only made its sides to face the cardinal points, but have conducted the river through it, in a straight channel, from north to south; and made it to divide the city into two equal parts. It may however be supposed, that two of its sides were parallel to the general course of the river, which, as we have said, is NNW and SSE; or perhaps, more oblique: and even if a new channel had been prepared for it, through the site of the intended city, it might be expected that common sense would have given it a direction, that was conformable to the general course of the stream. As M. Beauchamp says, that certain foundations, which he took for those of the city wall, ran at *right angles* with the course of the river, this circumstance is in favour of our supposition.†

* The territory round Hillah, named BABEL at the present day, is composed chiefly of plains, whose soil is rich; and the river banks are bordered with willows. We cannot forget the pathetic words put into the mouths of the captive Jews, by the author of the cxxxviith psalm:

"By the rivers of Babylon, there we sat down, yea, we wept, when we remembered Zion.

"We hanged our harps upon the *willows* in the midst thereof.

"For *there* they that carried us away captive, required of us a *song*: and they that wasted us, required of us *mirth*, saying, sing us one of the songs of Zion.

"How shall we sing the LORD's song, in a strange land?"

† The streets of cities, in hot climates, ought indeed, to lie in a direction that is oblique to the cardinal points; because more shade is thrown during the hottest part of the day.

It may reasonably be expected, that very great changes have taken place in the course of the river, since the date of the descriptions of Babylon, by the early Greek authors. No doubt, the temple of Belus was farther from the river, at that time, than the descriptions of the moderns allow it to be, (taking the mount of ruins for the tower,) so that the river ran more to the west. (See again the Map opposite page 335.)

We shall now enter on the description of the ruins, seen in the western quarter of Babylon. Here it may be remarked, that, as the visits of European travellers have been mostly confined to the eastern quarter of the ancient city; and that, as their inquiries may be supposed to be directed by the people of the country, it may be inferred, either that the principal part of the remains, are on that side; or that, if such exist on the west, the closeness of the woods, or some other obstacle, prevents a ready access to them. The former supposition, seems, however, the most probable one.

M. D'Anville informs us, in his Euphrates and Tigris, pages 116 and 117, that he had seen a MS. relation of the travels of the missionary, Pere Emanuel de St. Albert, which the author had communicated to M. Bellet, at Constantinople; and which the latter had sent to D'Anville's great patron, the Duke of Orleans. In it, the author says, " that he had seen in the *western* quarter of Babylon, (the other quarter he did not visit) extensive ranges of walls, partly standing, partly fallen; and of so solid a construction, that it was scarcely possible to detach from them, the large bricks of *a foot and half square, of which the buildings of Babylon were constructed.* The Jews, settled in those parts, call these remains, the *prison* of *Nebuchodonosor.*" M. D'Anville says, they might with more propriety call it, his *palace.* Perhaps the great solidity of the fabric, might lead them to conclude, that it was unnecessarily strong, for a palace. But, it was a *fortified* palace.

M. Niebuhr visited a ruin on the west side of the Euphrates, but

far too low down the river, in respect of the tower, to be regarded as the palace. From the brevity of the Pere Emanuel's description we cannot *determine*, absolutely, whether the ruins seen by these two gentlemen, were one and the same: but we should certainly conclude the contrary: for what M. Niebuhr saw, was, in his idea, rather a vast heap of bricks, than a structure: having above, or rising out of it, a tower of brick of great thickness. Vol. ii. p. 236. He does not give any dimensions either of the one, or of the other; having had but little time to examine it; being without an escorte, and in immediate danger, from some Arabs who seemed to menace him. We hope with him, that some future traveller may have a better opportunity of examining it.*

Independent of its general situation, it cannot from the description, be regarded as the tower of Belus: because its dimensions were so small, that M. Niebuhr himself, took it for a watch-tower, when he saw it from a distant place. Nor does it accord with the description of the ruin seen by P. Emanuel. No doubt, over so widely extended a space, as the site of ancient Babylon, and its environs, there ought to be a great variety of remains. But if those seen by Della Valle, were in the centre of the *city*, or even of the *eastern division* of it, as the temple of Belus is said to have been, those seen by M. Niebuhr could not have been included within the circuit of the wall, since the two ruins are more than nine miles from each other, in a direction of NE and SW. Indeed one cannot conceive the ruin on the west side to have been less than two or three miles from the SW angle of the city.

The bricks, of which the fabric seen by M. Niebuhr, was built,

* The reader may easily conceive with what disadvantage an antiquary pursues his inquiries in the despotic regions of Turkey and Persia, where he is not only beset by banditti, in every retired situation, but even finds an enemy in the community at large, because the prejudices of education are sharpened by the persecuting spirit of the popular religion.

were furnace-baked. Nothing is said concerning the nature of the cement; nor are any *reeds* mentioned, either by P. Emanuel, or M. Niebuhr.

M. Niebuhr further says—" At the time when Babylon was in a flourishing state, and the country about it, full of buildings, there must have been a fine view of it from this tower: for, at the *foot* of it, may be seen the mosque of Ali (Mesjid Ali) which is at least eight leagues distant."

As we do not hear of any remains of the *superstructure* of the walls of Babylon, at this time, it may be concluded that the materials of them have been generally removed, to build other cities. But this was not done in *very early* times; for although the city declined soon after the foundation of Seleucia, and was a deserted place in the time of Pliny, yet it appears that the city walls, as well as the tower of Belus, remained, although not entire. We learn both from Niebuhr and Beauchamp, that the foundations of buildings, and apparently, of the walls of the city, also, (but particularly from the former) continue to be dug up, and transported to other places, for the purposes of building; that large heaps of rubbish are discernible in many places; and that the square bricks of large dimensions (such as are above described in the tower of Belus, and in the walls of the ruined palace), are scattered over the tract round Hillah. These bricks too, are to be traced amongst the buildings of Bagdad,* and other cities; as we find Roman bricks, in and about those towns that were formerly Roman stations, in this Island. The palace of Chosroes in Ctesiphon (now called Tauk Kesra) appears to have been built of bricks, brought from the ruins of Babylon; as the dimensions are so nearly the same, and the proportions so singular. Those who have made it their business to examine and inquire into such matters, have always found that the materials of ancient cities have been employed in the building of new ones, in cases where new foundations have been established in the same neighbourhood:

* Della Valle, Vol. ii.

and when such materials could conveniently be transported by inland navigations, they are found at very great distances from their ancient place: much farther, indeed, than Bagdad or Seleucia, are from Babylon. In effect, the remains of ancient cities throughout the world, are those only, which are either too firmly cemented to be worth the labour of separating; too far distant from a convenient situation, to be worth the expence of transportation; or which, from their nature, are not applicable to ordinary purposes. For a deserted city, is nothing else than a *quarry, above ground;* in which the materials are ready shaped to every one's hands. And although, during the times of regular government, these ruins may become private property, or the property of the state, yet in the history of every country, there have happened intervals of anarchy and confusion, during which, such ruins have been regarded as common to all. In the above point of view, the Babylonians, Romans, and Bengallers, may be said to have provided a stock of materials for building, for the use of posterity; from the durable nature of their bricks:* but the bricks used in the building of some modern cities, seem to have been designed, rather for the use of the age in which they were made, than for posterity. The ancient bricks that have preserved their durability, are of various dimensions. Those made by the Romans, had their want of thickness, made up in length and breadth. The Bengal bricks had all their proportions, very small. The Babylonish bricks, are, as far as we know, the *thickest* and largest of all ancient bricks. However, they do not appear to have exceeded, by more than one-fourth of an inch in thickness, that of the thickest of the modern bricks. So nearly do the experiments of ancient and modern times, agree!

* The city of Mauldah is built almost entirely from the remains of Gour, the ancient capital of Bengal. Moorshedabad is partly built, from the same: and the bricks of Gour still afford a constant supply of materials for building. Its stone pillars have been distributed between Moorshedabad, Dacca, and Monghir: and some of the blocks of stone were used in the new citadel of Fort William, at Calcutta.

The dimensions of the furnace-baked bricks at Babylon, are reported pretty much alike, by Beauchamp and Niebuhr. The first gives them at one foot and three lines *square*, by three inches in thickness: the latter at a foot square; but omitting to state the thickness, otherwise than that they were nearly of the same standard with our bricks. M. Beauchamp's account, from the complexion of it, must be regarded as the most accurate; and it being, of course, in French measure, the bricks may be reckoned rather above 13 inches square, by nearly $3\frac{1}{4}$ thick, in English measure. M. Niebuhr appears to have intended the *Danish* foot, which is rather shorter than the English. The report of P. Emanuel, which allows a *foot and half*; and which standard he extends to the bricks generally throughout Babylon, must be considered as inaccurate. Mr. Ives says, that the bricks in *Tauk Kesra* are *about* a foot square, by three inches thick; which general correspondence of dimensions, may be regarded as a proof of their having been originally brought from the ruins of Babylon.* The sun-dried bricks in Aggarkuf, according to Ives, were of the same length and breadth, as the others; but not being intended for the furnace, there was no necessity for reducing their thickness to that standard, which experience had shewn, was convenient for baking in the fire: they were therefore $4\frac{1}{2}$, instead of 3 inches, in thickness. Possibly, if the matter had been examined into, the sun-dried bricks in the tower of Belus would also have been found much thicker than the baked ones.†

* M. Beauchamp however says, that these are only 10 inches square, by $2\frac{1}{2}$ in thickness. In English measure about $10\frac{7}{8}$ by $2\frac{3}{8}$.

† By the polite attention of Dr. Gray, Secretary to the Royal Society, it became known to the Author, that there was a *sun-dried* brick in the British Museum; and which is said to have been taken out of the ruin, called the tower of Babel: no doubt, Aggarkuf. This brick, as nearly as its dimensions can be ascertained, (for, from its friable nature, it has lost its regular form) is $12\frac{1}{4}$ inches by $12\frac{1}{2}$; and is $4\frac{1}{4}$ in thickness. Broken reeds appear, in some parts of it: but if they were really mixed with the clay, it must be in a very small proportion, from the *very great*

M. Beauchamp seems to take it for granted, that cement, either of bitumen, or lime, was employed in *all* the masonry in ancient Babylon. But we do not conceive that the private buildings were constructed with *such* cement, because of the perfect and whole state, in which the bricks are found, that were taken from the ruins in general: and because the Babylonians appear to have had a cheaper substitute for it, in the *clay mortar*, mentioned by Della Valle: and in *that*, of what kind soever it might be, which is spoken of by M. Niebuhr. (See above, page 366.) From what Della Valle also reports, we should conclude, most decidedly, that *certain parts only* of the public buildings, including the city walls, were cemented with bitumen; perhaps those which were exposed to the weather, or to inundations.* And by what we shall presently adduce, there appears to have been no necessity for an indiscriminate use of the bitumen.

M. Niebuhr says, that the large bricks, which were remarkably well burnt, " had been laid in matter that had so small a degree of tenacity, that they were easily separated; and that, without breaking them." But on the contrary, in the ruin of the palace seen by

weight of the brick; and it appears more probable, that the reeds are nothing more than a part of those, on which the brick lay, whilst in its soft state; and that they were not intended to enter into its composition.

It will be seen that this has a very near agreement with Ives's report of the bricks in Aggarkuf; but this brick was not brought away by *his* party, for he says, p. 298, that they took only a *piece* of each sort; together with some of the reeds out of the *layers*, and some of the *cement*; which latter, he calls " *mud* or *slime*, mixed with broken reeds, as we mix hair with mortar."

Since the Babylonish bricks do not differ much in dimensions from a foot, may it not be, that they might be made from the standard of their *foot measure?* From the great weight of the bricks, it may be inferred that the workmen were very strong, able-bodied men.

* On occasion of an inundation, about the year 1733, the foundations of the walls in Bagdad were covered with a composition, of which bitumen made a part. (Ives, page 281.)

P. Emanuel, " the construction was of so solid a nature, that it was scarce possible to separate them." He does not, however, appear to have described the *nature* of the cement. It was probably bitumen: but we are not possessed of sufficient knowledge, on the subject, to enable us to determine on the degree of cohesion belonging to that substance, when employed as a cement for bricks; but there seems no doubt but that it was extremely cohesive.*

As to the lime cement, very little of that appears to have been used. The crude material was at a distance; and although Babylon might have been well supplied with fuel (as Balbi says that the *forests* below Hit, still supply Bagdad with that article), yet a ready prepared cement must have come to market much cheaper.

If we consider the natural state of things in Babylonia, and then inquire what is done in other countries, under similar circumstances, we may readily conceive what the nature of the ordinary buildings in ancient Babylonia, was. This country, then, very much resembles Bengal in soil and appearance; being, like that, formed of the depositions of great rivers. The soil of Bengal furnishes a material, which not only serves the purpose of making excellent bricks, but that of a useful kind of *cement* likewise. The ordinary brick houses are there built of a very small sized brick, well burnt in the fire, and laid in *clay* wrought to a proper consistency: but no lime mortar is used, otherwise than for *arches*, or for a *coping*, to prevent the rain from penetrating the wall; and sometimes, though rarely, in laying foundations. This kind of construction is called *cutcha*, or

* The cement in the remarkable fortress of *Alkaddcr*, in the Chaldean Desert, according to M. Carmichael's description of it, appears to be bitumen. We know not the date of its construction.

The wall of Media (which shuts up the isthmus between the Euphrates and Tigris, above Babylon), was built of burnt *bricks*, laid in *bitumen*. (Xenophon Anab. lib. ii.) and the walls of *Perisabour*, in Babylonia, taken by Julian, were of the same materials: (Amm. Marc. lib. xxiv.) So that in those days, bitumen was much in use as a cement; but it appears to have been disused in succeeding times. None appears in the ruins of Ctesiphon, or in Bagdad.

slight; in contradistinction to *pucca*, or *strong*; which latter term is applied to masonry, built wholly with lime cement. The *cutcha* walls are made much thicker than the *pucca*; and if plastered over, and kept dry at the top, will bear the requisite pressure, and stand as well, perhaps too, as long, as those built with lime mortar of the country; which, by the bye, is some of the strongest in the world. Moreover, few countries have so great a quantity of rain, as Bengal; few less than Babylonia.

The nature of the mortar used in the ancient fabrics seen by Della Valle and by Ives, proves that the Babylonians built with clay mortar, as is practised by the Bengal people; and by those of Bagdad, the modern Babylon. And this reminds us of a passage in Genesis (chap. xi. ver. 3.) relating to the building of the tower of Babel, (which might possibly have been a part of the *original* city of Babylon; perhaps the very tower of Belus, so often mentioned, before it took the form described above.) It says, "they had brick for stone, and *slime* for mortar." Now, is not this particularly descriptive of one of the modes of building, in Babylonia; and which, in essentials, resembles the Bengal cutcha?

The bricks used in the Bengal *cutcha*, having been originally well burnt, and afterwards easily separated, are equal in quality to new bricks: and therefore are equally valuable, in the construction of other houses. But this is not the case of those used in the *pucca* work; for they will more easily break, than separate, as is said of those in the Babylonian palace.* If then, it be admitted, that a mode of building, similar to that of the *cutcha* in Bengal, obtained in Babylon, which from the above circumstances appears highly probable, we ought not to wonder that we see so few remains of Babylon, *on the spot*. Had the materials of its buildings, in general, been so dif-

* When the French again fortified Pondicherry, after the destruction of its works by the English, in 1761, they sawed the masses of brick-work, that had been blown up, into blocks of a convenient size for building, and used them accordingly. The bricks could not be separated.

ficult to separate, as those of the palace seen by P. Emanuel, we should unquestionably find much greater remains of that celebrated city.

Herodotus, in his account of the building of Babylon, says, that the Babylonians intermixed reeds with the bitumen, used as cement, in building the walls; which were made of bricks baked in a furnace. We collect from his description, that these layers of reeds were introduced at certain distances, between the courses of bricks, in order to render the masonry more compact: the text says, at every *thirtieth* course. But we conceive that the number is corrupted (as may be perceived in other instances, in this and most other ancient authors), because M. Beauchamp says, that the *osiers*, or whatsoever was meant by the *reeds*, by Herodotus, are placed between every *two* layers of bricks, in the tower of Belus: and in other great ruins, higher up, he says that the osiers were only laid "*occasionally*." As this mode of building with reeds between the courses appears to have prevailed only amongst the ancient Babylonians, we may reasonably conclude, that Aggarkuf is of Babylonian origin, by its having this characteristic mark in it.* In this ancient, and very singular fabric, Mr. Ives, and others, found *reeds*, or *rushes*, at every 6th, 7th, or 8th course, of sun-dried bricks. No bitumen was used there; for Mr. Ives drew out the reeds from the wall with ease; a proof that they were not laid in any tenacious kind of cement: on the contrary, he says, that it was no other than "*mud* or *slime*, amongst which broken reeds were mixed; as we mix hair with mortar." These, he says, were as fresh, as if lately placed

* *Aggarkuf*, or *Akkarkuf*, is a shapeless mass of ruins, 126 feet in height, by 100 in diameter; and appears to be solid. It stands about nine miles to the westward of Bagdad, and consists entirely of sun-dried bricks, mixed with reeds. It is surrounded by ruins, and heaps of bricks. A drawing of it, with a description, is given by Mr. Ives, page 298: Europeans call it the tower of Babel. It might perhaps have been a royal sepulchre.

M. Niebuhr, p. 248, thought there was some resemblance between the ruin of Aggarkuf, and that before spoken of, in page 376.

there; and being less subject to decay, than the substance of the wall, they project beyond it, and are therefore fully open to investigation. M. Niebuhr says, they were *layers* of *rushes*, of two fingers breadth in thickness. Others call them *reeds*, of the kind of which coarse matting is made, in that country: and all (but Mr. Ives) agree in saying that the reeds *form layers between the courses of brick-work*. But, it is certain, that Della Valle agrees with Ives in saying that *broken reeds* or *straw*, were mixed with the clay cement, between the sun-dried bricks, which he saw; although he does not say they were in layers. This, however, was in the ruin of the tower of Belus. It can hardly be doubted, that by the *broken* reeds, Ives meant the same thing, which others meant by the *layers* of reeds: and it may also be suspected that what Della Valle saw, was originally the same kind of arrangement; only that the part he dug into, might have been overturned, and the reeds thrown into that kind of disorder which would present the appearance he describes. Or, the disorder might have been caused, by the very mode of digging, itself.

It is not perhaps very easy to determine the use of the layers of reeds, where the cement was of so tenacious a quality, as bitumen is commonly reported to be. Nor can we reason with any effect, on a subject, on which we are so little informed. It may however be remarked, that as on different occasions, the layers were introduced at different distances from each other, each method had probably a reference to some particular object, or use, which we cannot understand. Thus, in the tower of Belus, M. Beauchamp says that the *osiers* were placed at *every* course; but in some other great ruins, only *occasionally:* and in both these instances, the materials were bricks, baked in the *furnace*, and laid in *bitumen*. Again, we find reeds laid in *clay* mortar, between *sun-dried* bricks, at every 6th, 7th, or 8th course, in Aggarkuf: and also between the same kind of bricks in the tower of Belus; for Della Valle describes the same appearances there, as Ives does at Aggarkuf. So that the practice

of using reeds, or some substitute for them, was almost universal. Had they been used *only* with clay mortar, we might have concluded that they were necessary, in order to bind together, a mass that appeared to be too loosely held, by the cement, alone; but this supposition is done away, by the practice of using the same reeds with the cement of bitumen.

We can perceive a slight advantage in the use of the reeds, where mud cement was used: and as this mode of building, no doubt, obtained, long before the time when bitumen began to be used as cement, in Babylonia; it is possible that the custom may have been blindly transferred to a case, where the reason of the thing should have rejected it; as may be seen on other occasions. As the reeds added strength to a wall cemented with *clay*, they might expect the same effect from them, in one cemented with *bitumen*; admitting that the reeds did not in any shape counteract the cohesive quality of the bitumen: but it is certain, that it does not appear to *require* any such aid. But after all, there may be a quality in bitumen, which may prevent its hardening, where the air is absolutely excluded, as in the middle of a wall; and the reeds may have disposed it to harden. When exposed to the air, it is known to grow hard very soon.

Thus, we have endeavoured to establish the geographical position of Babylon; and may safely conclude that it stood in the place assigned to it. Many circumstances concur to prove it: for the distances given by Herodotus from *Is*, or *Hit*; and by Strabo, and the Theodosian Tables, from Seleucia; the traditions of the Orientals concerning it; their report of its latitude, and the name of the district round it, which is BABEL to this day; together with the ruins, which are of no ordinary kind; all conspire to place the site of ancient Babylon, at, and about, the present town of Hillah: and the particular ruin which may be taken for that of the tower of Belus, (which was said to stand in the centre of one of the divisions), at $3\frac{1}{2}$ British miles to the NNW of Hillah.

The decline of Babylon is dated from the foundation of its rival, Seleucia, on the Tigris, by Seleucus Nicator (A. C. 293.) In the time of Strabo, Seleucia was become a *larger* city than Babylon, the *greater part* of which was become a desert. He says, Alexander's successors disregarded Babylon; the Persians destroyed part of it; and the negligence of the Macedonians, added to the natural decay occasioned by time, completed its ruin: especially after Seleucus transferred the seat of empire to his new city. Strabo, p. 738.

Pliny, who appears to have written 70 or 80 years after Strabo, says, that it was *then* a *deserted* place; but that the temple (or the tower) of Belus was yet standing. In this, he differs from Strabo and Arrian; the first of whom says, that it was *destroyed* by Xerxes; the latter only says that it was *out of repair*, and that Alexander wished to restore it. Strabo says, that 10,000 men would not have been able to remove the rubbish in two months: p. 738. We may therefore understand what they say with this limitation: that the tower of Belus was gone to decay, but was not absolutely destroyed, in their times. As to Babylon itself, we trace its rapid decline in what Strabo and Pliny say, at the distance of much less than a century, from each other. And, as we have observed before, what Strabo says concerning it, is a strong fact; and goes also towards proving that Babylon was a wonderfully large place.

Diodorus says, speaking of his own times, that but a small part of Babylon remained inhabited; the greater part of the tract within the walls, being turned into fields: but this does not agree with Strabo; and it is probable that Diodorus might not have been aware, how much of the area remained in the state of fields, from the beginning.

The history of the subsequent decline of Babylon, we are not acquainted with. Whilst the walls remained, it became (according to St. Jerome) a park, in which the Parthian kings took the diversion of hunting. This appropriation might, perhaps, preserve the walls to a later period, than in the usual course of things, they

would have remained. After that, it is probable, that as the walls decayed by time, depredations were also made on them; and their materials gradually removed to build houses, and cities, and even palaces, in other situations.

The palace of Chosroes *(Tauk Kesra)* is supposed to have been built about the time of Justinian, and of Babylonish bricks:* and as Babylon had declined so much before the foundation of Ctesiphon, it is probable that the latter was built of the same bricks, also. At the date of the foundation of Bagdad (A. D. 762), it is probable that Babylon was so totally gone to decay as to furnish bricks for the new city, generally. And this is the idea of Della Valle, to whom the bricks in question were familiar. Hillah is allowed by all, to have been built of these bricks: and, in effect, it stands on a part of the very site of ancient Babylon.

It must not be omitted, that Herodotus states, that Darius Hystaspes, on the taking of Babylon by the stratagem of Zopyrus, "*levelled the walls, and took away the gates*; neither of which Cyrus had done before." Thalia, 159. But let it be remarked, that Darius lived about a century and half before Alexander; in whose time the walls appear to have been in their original state; or at least, nothing is said that implies the contrary. And it

* Tauk Kesra is a vast building, of nearly 300 feet in length in front, by 160 in depth; having in the centre a *vaulted hall*, which is between 90 and 100 feet in height, to the top of the arch; whose span is more than 80. Its walls are of a degree of strength fully proportioned to the weight of the superstructure; the piers of the vault being about 25 feet in thickness, and the front wall 19½. It is void of elegance, and gives the idea of a barbarous imitation of Grecian architecture. Mr. Ives has given a drawing and description of it, in his Voyage, (p. 288.): and Mr. Irwin, (Vol. ii. p. 351.) who also speaks of the building, says, that the drawing is just in every respect, save that the arch is not flat enough; for the drawing makes it semicircular. M. Beauchamp is very particular in his description of it, (See European Magazine, 1792.) D'Herbelot refers its foundation to Chosroes I. called also Nouschirwan, in the sixth century of our era. (Article Nouschirwan). He is called by the Arabs, *Kesra*; whence *Tauk Kesra*, or the *throne* (or *palace*) of Kesra.

cannot be believed that if Darius had even taken the trouble to level 34 miles, of so prodigious a rampart as that of Babylon, that ever it would have been rebuilt, in the manner described by Ctesias, Clitarchus, and others, who describe it, at a much later period. Besides, it would have been quite unnecessary to level more than *a part* of the wall, in order to lay the place open: and in this way, probably, the historian ought to be understood.

Should the antiquities of Babylon become an object of curiosity amongst the learned, there is little doubt but that it might be abundantly gratified, if researches were diligently pursued for that purpose. The position and extent of the city walls, might probably be ascertained, even at this day; as, no doubt, both the rampart and ditch must have left visible traces, although inundations may have raised the general level of the country itself. The delineation and description of the site and remains, would prove one of the most curious pieces of antiquity that has been exhibited, in these times.

SECTION XV.

CONCERNING THE DISPOSAL OF THE TEN TRIBES OF THE JEWS, WHICH WERE CARRIED INTO CAPTIVITY, TO NINEVEH: COMMONLY CALLED THE FIRST CAPTIVITY.

The Ten Tribes *carried first to* Nineveh, *and then distributed in* Media.—*The* Afghans, *by some, taken for these Tribes.*—*Captivity of the* Syrians *of* Damascus, *who were carried to* Kir, *or* Assyria —*Captivity of the* Two Tribes and half; *and of the Remainder of the* Ten *Tribes.*—*Conjecture respecting the Cities of* Media, *in which they were placed:* Habor *and* Halah, *(or* Chabor *and Chalacho)* by *the River* Gozan; *and other* Cities *of the* Medes. —Abhar *taken for* Habor; Halah *(or* Chalacho), *for* Chalcal; Kizil-Ozan, *for the* Gozan.—*Jews placed also in* Rages *and* Ecbatana, *according to* Tobit.—*Tombs of* Esther *and* Daniel.—Ispahan, *originally a* Jewish *City.*—*The Circumstances of the* FIRST CAPTIVITY, *wanting.*—*Improbability of the Removal of the* whole *Nation of* ISRAEL; *from the Greatness of their Numbers—those Numbers probably erroneous in the Copies of the Scriptures; with the supposed Foundation of that Error.*—*Circumstances of the* SECOND *Captivity adduced, and applied to the* FIRST, *as a parallel Case.*—*Only* certain *Classes of the* Judeans *were removed: the Body of the People remained.*—*History of* Tobit, *throws much Light on the Distribution and Settlement of the Jews, in Media—Jews employed in Stations of Trust and Confidence, by their new Masters.*—*Permanency of Eastern Customs exemplified.*—*The Policy of* PETER *the Great of Russia, in the Distribution of the*

Swedish *Captives, similar to that of the King of* Assyria.—*Great Numbers of Jews found in* Babylonia, *in Aftertimes.*—*Observations of* Diodorus Siculus, *respecting the* Jews.

THE ten tribes of ISRAEL, or rather those amongst them, who were carried into captivity by the king of ASSYRIA, first to Nineveh, and afterwards distributed amongst the Cities of MEDIA; have been sought after, without success, in almost every age. Some of the Asiatics, have taken the AFGHAN nation for these expatriated Jews; either from a general resemblance of feature between them, or from prevailing traditions. But surely, the *whole* nation of Israel itself, could not have been removed from Palestine into Assyria and Media: nor can it reasonably be supposed, that more than certain classes of persons, and those the least numerous, were thus transplanted; from the obvious difficulty attending the removal of so great a body of people.

It happens, unluckily, that the particular circumstances of the FIRST captivity (that is, of the TEN TRIBES) are not given, like those of the LAST (JUDAH and BENJAMIN); but if the inferences that may obviously be drawn from the history of the latter, may be allowed to apply to the former, they are clearly in favour of the above supposition. And since no detail of facts is given, concerning the first captivity, it may perhaps, be allowable to apply those, which arise on what may be deemed, a similar case.

There are several notices of a *general* kind, concerning the transplanting of the Israelites, from their own country to that of Assyria, &c. in the books of the Kings, and Chronicles; and also in Josephus. Their removal was accomplished, not by one, but by two distinct operations, and by different princes, at the distance of near 20 years from each other: besides which, the people of Damascus (not *Jews*, but *Syrians*), were also removed, nearly at the same time with the first of the Israelites. The *two* and *half* tribes beyond (that is, to the

east of) Jordan, namely, those of REUBEN, GAD, and the half tribe of MANASSEH, were first of all carried away by Tiglath-Pileser, king of Assyria: and, at the distance of the above interval, the remainder of the ten tribes, by Shalmaneser. But the captivity of the tribes of JUDAH and BENJAMIN, into Babylonia, by Nebuchadnezzar, about 115 years after the last, has nothing to do with the present question, concerning the ten tribes; otherwise than as it seems apparently to furnish a parallel case, from whence some important conclusions may be drawn. And the carrying away of the DAMASCENES, is to be regarded in the same point of view.*

These last were taken away by Tiglath Pileser,† about the year 740 B. C.: and was done, it appears, at the solicitation of the king of JUDEA, against those of ISRAEL and SYRIA, who threatened him. It is said (2 Kings, xvi. 9.) that "the king of Assyria took Damascus, slew their king, Rezin, and carried the people captive to KIR;" by which the country of ASSYRIA is unequivocally meant.‡

* Josephus says (Antiq. lib. x. ch. 9.) that the entire interval between the carrying away of the *ten*, and of the *two*, tribes, was 130 years, 6 months, and 10 days. This account should rather relate to the first carrying away of the *two and half* tribes, beyond Jordan; but even then, our systems of chronology allow 135 years for the interval.

The chronology of Dr. Usher, and of Sir Isaac Newton, allow the following dates, for the events mentioned in this Section.

Captivity of the two and half tribes, and of the Syrians of Damascus, by Tiglath Pileser, before Christ - - - -	740
——— of the ten tribes, by Shalmaneser - - -	721
——— of Judah, by Nebuchadnezzar - - - -	606
Destruction of Jerusalem - - - - -	589
Decree of Cyrus, for the return of the Jews - - -	536

† Called also *Tilgath Pilneser*.

‡ Assyria, (that is, *Assyria proper*, the country situated beyond the Tigris, and south of Taurus; and of which, Nineveh was the capital), is often designed in the Scriptures by the name of KIR, or KEER. Besides the place just mentioned, it is found in Amos, ch. ix. ver. 7. "Have not I brought up the Assyrians from *Kir*?" Again, ch. i. ver 5. "Syria shall go into captivity, unto *Kir*." In Isaiah, xxii.

But Josephus says (Antiq. ix. c. 12, 3.) that they were sent to UPPER MEDIA; that Tiglath Pileser sent a colony of Assyrians in their room; and that at the same time, he afflicted the land of Israel, and took away many captives out of it.

Concerning the removal of the *two tribes and half*, whose country bordered on that of Damascus, about the same time, and by the same king, the following particulars may be collected. In 2 Kings, xv. ver. 29, it is said that "Tiglath Pileser, king of Assyria, took Ijon, and Abel-beth-Maacha, Janoah, Kadesh and Hazor, and Gilead and Galilee; all the land of NAPHTALI, and carried them captive to Assyria." But in the account of the same transaction in 1 Chron. v. ver. 26, it is said that Tiglath Pileser "carried away the REUBENITES, the GADITES, and the half tribe of MANASSEH, and brought them to *Halah*, and *Habor*, and *Hara*, and to the *river* of *Gozan*, unto this day." The chronology of this event is given at 740 years B. C.*

ver. 6, it is mentioned with *Elam*, intended for *Susa*, (and perhaps *Persia*, also)—"*Kir* uncovered the shield."

The name Kir is traceable at present in that country. The loftiest ridge of the Kurdistan mountains (*Carduchian*) is named *Kiarè*; according to M. Otter. The province adjacent is named *Hakiari* (Niebuhr); the *Kiouran* tribe of *Kourds*, inhabit the eastern part of Assyria (Otter); *Kerkook*, a large town, and other places of less consequence, have the prefixture *Ker* or *Kir* to them. (Niebuhr). It is possible that the name of the *Carduchian* people, may have had the same root.

* It may be observed, that *Naphtali* is omitted in the latter reading; *i. e.* in the Chronicles; and this should seem to be the most correct; for Tobit, who was of the tribe of Naphtali, was carried away, not by Tiglath Pileser, but by Shalmaneser; if, as no doubt, is the case, he is intended by Emanassar, in Tobit, ch. i: for Sennacherib was the successor of the latter, in Tobit; as of the former, in other parts of the Bible.

Pul is also mentioned in the same verse, (*i. e.* the 26th of the fifth chapter of the 1 Chron.) which alludes to an earlier transaction, mentioned in 2 Kings, xv. ver. 19. and is to this effect; that *Pul* (the *Sardanapalus* of Herodotus, no doubt) king of Assyria, invaded Israel, under the reign of Menahem, (B. C. 773.) when the latter gave to the king of Assyria 1000 talents of silver, to insure his protection.

Josephus, in relating the same transaction, Antiq. lib. ix. c. 11, 1, says, that Tiglath Pileser "carried away the inhabitants of Gilead, Galilee, Kadesh, and Hazor,* and transplanted them into his own kingdom;" by which, in strictness, ASSYRIA should be understood: but it appears from the book of Tobit, that MEDIA was also subject to him; so that there is no contradiction.

We come next, in order, to the proper subject of the ten tribes.

In 2 Kings, xvii. ver. 6. Shalmaneser, king of Assyria, is said to have carried away ISRAEL into Assyria, and to have "placed them in *Halah* and in *Habor, by* the river of *Gozan*, and in the *cities* of the *Medes*." And this is repeated in chapter xxviii. ver. 11.† The chronology of this event is fixed at 721 B. C. or 19 years after the removal of the two and half tribes, to the same country and cities. It is proper to remark, that although *Hara* is one of the places, to which the two and half tribes were sent, it does not occur amongst the places to which the ten tribes were said to be carried. Of this, more will be said in the sequel.

Josephus, speaking of the same event, says, (Antiq. ix. c. 14, 1.) that Shalmaneser took *Samaria* (that is, the capital of the Israelites), demolished their government, and transplanted ALL the people into MEDIA and PERSIA: and that they were replaced by other people out of CUTHAH; which, says he, (in section iii. of the same chapter) is the name of a country in Persia, and which has a river of the same name, in it. Of the Cutheans, continues he, there were *five* tribes, or nations; each of which had their own gods; and these they brought with them into Samaria. These, he observes, were the people afterwards called SAMARITANS; and who, although they had no pretensions, affected to be kinsfolk to the JEWS. And hence,

* Kadesh and Hazor were certainly in the country of Naphtali, and so far Josephus agrees with the book of Kings.

† Usher writes these names, (we suppose from the Hebrew), *Chalacho*, *Chabor*, and *Nehar Goxan*. And for *Hara*, he has *Haram*. Pages 64 and 68.

we may suppose, arose the violent animosity that subsisted between the two nations.

In lib. x. c. 9, 7, he repeats the substance of what he had said before: adding, that the Cutheans had formerly belonged to the *inner* parts of Persia and Media.*

In the Bible, 2 Kings, xvii. ver. 24, it is said, that the people brought to supply the place of the Israelites, were from five places; *i. e. Babylon, Cuthah, Ava, Hamath,*† and *Sepharvim:* and also, that they worshipped as many different deities.

Thus, we have before us, the history of the removal of the ten tribes of Israel, at different periods; as also of the people of Damascus, to the same countries: all which was effected by the kings of ASSYRIA; who resided, or whose capital was at, NINEVEH, at the side of the Tigris; and who possessed, in addition to ASSYRIA, (by which is to be understood that country at large, as in pages 176 and 179), the country of MEDIA, also. But, previous to the SECOND CAPTIVITY (or that of JUDAH) by the BABYLONIANS, these last had become masters of all Assyria; Nineveh had been destroyed; and Babylon become the capital of the empire of Assyria, thus enlarged by conquest.

Before we proceed to set forth the circumstances of the *second* captivity, with a view to the illustration of the *first*, it will be necessary to adduce some general matter, in order to clear the way for the more effectual application of the circumstances in question. And first, we shall endeavour to ascertain the positions of the places, to which the ten tribes were sent; that is, *Halah, Habor,* the river of *Gozan,* and the *cities* of the *Medes:* concerning which, it may be remarked, that Josephus does not appear to take any note, otherwise than by mentioning generally, the *countries* of MEDIA and PERSIA; from which countries also, he says, the Cuthites were brought. So that he might possibly have supposed, that there

* This is according to Mr. Whiston's translation.

† Can this be the Hamath, or *Hamah,* of Syria?

was a complete change of country, between the two people; which, however, does not appear probable.

There is found in the country anciently named MEDIA* (now called AL JEBAL, and IRAK AJAMI), in the remote northern quarter, towards the Caspian sea, and Ghilan, a considerable river named OZAN; or with the prefixture to it, KIZIL-OZAN.† *Kizil* signifies *red*, and has doubtless been added by the Turkish hordes, who

* By this is meant Media *Major*, only, not the *two* Medias, collectively. See the distinction in page 270.

† The *Kizil-Ozan*, according to Mr. Hanway, Vol. i. p. 261, "is one of the most *famous* rivers in *Persia*." He spoke of the *empire* of Persia, at large; and was then on the road between *Ghilan* and *Hamadan*. The Kizil-Ozan is certainly one of the *largest* rivers of that tract.

Olearius (lib. v. and vii.) writes it *Kisilosein*: and describes it as a very rapid, and considerable river.

Della Valle writes it *Chizil Uzen* (Vol. iv. Letter 5.)

This river springs from the country anciently named *Matiene* (between *Tebriz* and *Hamadan)*, and taking its course eastward, falls into the SW part of the Caspian sea; penetrating, in its way, the great ridge of mountains, that divides *Media* from the *Caspian* provinces.

From the upper level of Media, it descends with a rapid and furious course, through a frightful chasm, which its waters have worn, through the base of the mountains, which is many miles in width; when having reached the lower country of *Ghilan*, it glides with a navigable course to the sea. Previous to its descent, it collects the waters of *Abhar* and *Casbin*, &c. under the name of *Shah-rud*, and the collective waters take the name of *Isperud*, or the *white* river; perhaps, from its long continued foaming course through the mountains; for Della Valle says, that its waters themselves have a *reddish* tinge.

Travellers describe with horror, the road which leads along the side of the chasm; and which is the only one, practicable for loaded beasts, from Ghilan to Ispahan. It is generally excavated from the steep rocky cliff which impends over the dreadful gulf, below: and along it, the traveller holds loosely, the bridle of his beast, whilst he leads him along, fearing to be drawn after him, should a false step be made. See Olearius, Hanway, &c. This chasm is about 180 miles to the westward of the Caspian strait.

It may be remarked, that Delisle has a district of the name of *Ouzam*, near the river in question: and that Olearius has *Utzan*, classed with *Chalcal*, &c. in Aderbigian; which province is separated from Al Jebal, by the river Ozan.

apply this term to other rivers; for instance, the *Halys* is named *Kizil-Ermak;* and that branch of the *Oxus*, which reaches the Caspian sea, is named *Kizil.* There is also found a city named *Abhar*, or *Habar*, situated on a *branch* of the river *Ozan;* and this city has the reputation of being exceedingly ancient. There is, moreover, bordering on the river Ozan itself, a district of some extent, and of great beauty and fertility, named *Chalchal;* having within it, a remarkably strong position of the *same name*, situated on one of the hills, adjoining to the base of the neighbouring mountains, which separate it from the province of Ghilan. Perhaps, we may be allowed to regard *these*, as the river of GOZAN, and the HABOR, and HALAH, of the Scriptures. Both of the latter, are said to be *by* the river of Gozan, in 2 Kings, xvii. ver. 6. *Halah*, as it appears in the Vulgate, is written *Chalacho* by Dr. Usher; which is not much unlike *Chalchal;* and considering the various accidents that may have corrupted the writing of the one, or the other of them; it is not unlikely to be the place meant. *Habor*, he writes *Chabor.* The Asiatics allow to the city of Abhar, a great antiquity; and why should not its name have remained, as well as those of Babylon, and Nineveh; which are known, and familiarly applied, to the respective situations of those celebrated cities? The name Ozan, too, which comes so near to Gozan, being so closely connected in geography with both, gives strength to the supposition.*

* The name of ABHAR is variously written. It is *Abhar*, by Abulfeda, (Reiske's translation); *Abher*, Herbelot; *Abar*, Hanway; *Habar*, Taverniere; *Abher*, Della Valle; *Ebher*, Chardin; and *Ebbeber*, Olearius.

Abhar appears in the Tables of Nasereddin and Ulugbeig. Chardin speaks of its antiquity: so does Taverniere. Chardin also says, that it is a small city, situated in a delightful country, well watered. Also, that Abhar, in coming from the west, is the first place where the Persian language is spoken. From thence eastward to India, all is Persian: to the west, Turkish.

A small river passes through Abhar, and joins the *Kizil-Ozan*, which latter is about 45 miles from Abhar.

Concerning *Chalcal*—we learn from Olearius, in his geographical description of

Hara, to which, as well as to *Habor*, and *Halah*, the *two and half tribes* were sent, is written *Haram* in Usher. This name, we cannot supply: but there is a district named *Tarom*, or *Tarim*, bordering also on the *Ozan*, and occupying the space between those of *Abhar* and *Chalcal*. If it can be supposed that the initial has been changed, no place appears more likely to be the one intended.*

Rages, the modern Rey, a city in which others of the Jews resided (according to the testimony of Tobit, who had himself visited them, chapter i. ver. 14.), stood in the same quarter of Media. In Ecbatana, by the same authority, there were other Jews settled:† and the Oriental geographers assure us, that a town, which is now

Persia, (lib. v.) that *Chalcal* is one of the districts of *Aderbigian*. He also passed through it, in his way from Ardebil to Casbin (same book), and fixes its situation. Della Valle also passed through it; and describes the position of the strong post of *Chalcal*. Vol. iv. Lett. 5.

* Della Valle (in the same Letter) gives the position of the district of *Tarom*, or *Taron*. Otter, Vol. i. 188, *et seq.* quotes *the Turkish geographer* concerning *Tarim*, situated at one journey to the north of *Sultanny;* and also Abulfeda, who places it eight journies to the eastward of Tebriz, or Tauris. These notices are decisive of its position.

† It has been said, in p. 272, that *Hamadan* stands on the site of *Ecbatana*. M. Otter says, Vol. i. p. 182, that the report (of the people of the country) is, that it was ruined by Nabuchodonosor, whom the Orientals name Bukhetunnusre: and that they shew the tomb of ESTHER at that place, to which the Jews proceed in pilgrimage. He also speaks of the great degree of cold, there, in winter: but he visited it in summer, when the climate was remarkably pleasant. The mountain of *Elwend (Orontes* of the Greeks), situated at one league from it, is always covered with snow. It may be recollected, that Ecbatana was the *summer* residence of the Persian kings.

As the tomb of ESTHER is shewn at *Hamadan*, or *Ecbatana*, so is that of DANIEL, at *Sus*, taken for *Susa*. (Otter, Vol. ii. p. 53.)

Josephus speaks of Daniel's tower; (at *Susa*, according to St. Jerome's copy, though other copies have Ecbatana). This tower was the burial place of the kings of Media, Persia, and Parthia; and, from the exquisite nature of its architecture and materials, remained in a state of preservation in the time of Josephus. (Antiq. x. c. 11.)

either a suburb, or become a part of, the city of Ispahan, was anciently peopled by Jews. So that we have here every reasonable testimony, concerning the positions of *certain* of the *cities* of the *Medes*, in which the JEWS were placed: and perhaps, the same may also be admitted, respecting the identity of *Habor*, *Halah*, and *Gozan*.

The following are the notices respecting the Jewish town at the site of the present city of Ispahan; and of the planting of a Jewish colony in it. M. Otter says, Vol. i. p. 203, "the report of the Persians, is, that on the original foundation or establishment of Ispahan, it included the site of four villages, named *Kearran*, *Keousek*, *Joubary*, and *Deshet*; and that these villages were so ancient as the times of the kings *Tamouris* and *Jemchid*; (whose reigns, Sir William Jones fixes in the 8th and 9th centuries before Christ). M. Otter adds, that "*Kaikobad* having resolved to establish his capital here, drew together a vast concourse of people; and that during the reign of *Bukhetunnusre*, or *Nabuchodonosor*, a great number of Jews came and settled themselves in the quarter called, to the present time, JAHOUDIA."*

Abulfeda also speaks of the Jewish town at Ispahan (article *Belad al Gabali*). He says, that *Bochtansar*, when he destroyed the city of Jerusalem, sent the inhabitants to this place, who built themselves a town, which took the name of JAHUDIAH. That *Gajjong* was the name of the most ancient of the towns or villages on the site of Ispahan; and that Jahudiah was built at the distance of two miles from it. Also, that in process of time, Gajjong declined, whilst the Jewish town increased; particularly by the accession of Mahomedan tribes. And finally, that the name Jahudiah remained. It is

* This information appears, from Golius, to have been collected from HAMDALLA. Golius writes the names of the four villages, from the Arabic original, *Kirân*, *Koxec*, *Gioubâra*, and *Derdext*. (See the notes on Alfraganius, p. 216.) Golius also quotes JAKUTUS, who speaks of the Jewish city on the site of Ispahan.

certain, however, that we have not been able to find this name in any of the writings of modern travellers: and it may be, that it is now no longer to be found, but in books. Abulfeda wrote in the 14th century.*

These historical, or traditionary notices, point strongly towards the establishing of a fact, which is but slightly mentioned in the Scriptures; although the notices in question confound together the two captivities of the Jews; by assigning to the captives brought by Nebuchadnezzer, to Babylonia, the place of those brought by Shalmaneser and others, to Media. *Kaikobad*, according to Sir W. Jones, reigned in the beginning of the 7th century before Christ, which was about a century *after* the transplanting of the 10 tribes to Media. But notwithstanding these differences, there is much internal evidence contained in the notices; perhaps more, than if the particulars had corresponded with the Bible history; for then, they might have been supposed to be copied from it. And, on the whole, this testimony respecting the settlement of the Jews in *Ispahan* (which, it is to be recollected, is situated within ancient Media), together with the name of the suburb or city, *Jahudia*, appear to be strong circumstances; particularly when combined with the above notices respecting the *cities* of the *Medes*.

In effect then, we find the Jews scattered over the country of Media, (then a part of the dominion of *Assyria*) from *Ecbatana* to *Rages*; and from *Abhar* and the river *Ozan*, to *Ispahan*. And having thus attempted to point out the places of residence of the Jews, carried away in the FIRST CAPTIVITY, we shall next inquire, whether it is probable that the *whole nation* of Israel, was trans-

* The *Gajjong*, or *Gajja*, of Reiske's Abulfeda, is written *Gieyum* by Golius, from the Arabic of Jakutus.

D'Herbelot appears to consider Jahudiah as a different place from Ispahan, although situated in the same province of Media. See the article *Esfahan* in D'Herbelot.

planted to Nineveh and Media; or that certain classes of people, only, and those the least numerous, were carried away?

It has been already remarked, that there are no particulars given, respecting the carrying away of ISRAEL to Nineveh, as of JUDAH to Babylon: and that we may, perhaps, be allowed to consider both, as parallel cases; and thence infer, that the conduct of the king of Nineveh, was much the same with that of the king of Babylon!

Josephus says (see above, page 393), that ALL the nation of Israel was taken away, and their places supplied by the *Cutheans*. The Bible (2 Kings, ch. xvii. and xviii.), leaves us to understand the same, if taken literally: that is, that Shalmaneser "carried ISRAEL away *into* or *unto* Assyria;" and that people were brought from divers countries, and "placed in the cities of Samaria, *instead* of the children of Israel: and they possessed Samaria, and dwelt in the cities thereof."

Certainly, if these accounts are to be taken *literally*, we must suppose no other, than that the *whole nation* was carried away; which supposition, however, occasions some difficulty, not only from the numbers to be carried away, but from the obvious difficulty of *feeding* by the way, and of finally placing, in a situation where they could be *fed*, so vast, and in a great degree, so useless a multitude, when removed to a strange country. Wheresoever they came, they must either have been starved themselves, or they must *virtually* have displaced nearly an equal number of the king's subjects, who were already settled, and in habits of maintaining themselves, and probably of aiding the state.*

* In the enumeration of the tribes of JUDAH and ISRAEL, in 2 Samuel, xxiv. there were said to be, of fighting men 800,000, in Israel, 500,000 in Judah. In 1 Chron. xxi. there is this difference, that there are given, respectively, 1,100,000, and 470,000. Take the mean of the two accounts, we have 1,435,000 fighting men. According to the *data* furnished by the actual enumeration of a parish in Dorsetshire, by that WORTHY CITIZEN, and TRUE PATRIOT, WILLIAM MORTON PITT, Esq.

They were said to be carried to Nineveh. This residue of the ten tribes (that is, $7\frac{1}{2}$) cannot be estimated lower than at two-thirds of the population of Nineveh, itself. And it may be asked, who *fed* them, in their way across Syria and Mesopotamia, to Nineveh? And admitting an exchange of the *Cutheans* for the *Israelites*, on so extended a scale, as to include the agricultural and working people of all classes, a sovereign who should make such an exchange, where an interval of space, of near 1000 miles intervened, would at least discover a different kind of policy from that, which in our conception, was followed by the king of Assyria.

The Tartar, or other Nomadic tribes, which either transport themselves to a distant country, or have been transplanted by others, are in a predicament totally different from agricultural tribes. With the former, the business of life goes on, by the way; and nothing is lost by a removal, which leaves nothing behind, and places every thing valuable in prospect. Most of the people whom Tamerlane transplanted, were Tartars: and the Eretrians and Boeotians were very few in number.*

the persons *capable* of bearing arms, appear to form about a *fourth* part of a community. Consequently, there should have been near $5\frac{1}{4}$ millions of people in Palestine: but as the number of square miles in that country hardly exceed 7250, there must have been some mistake in the copying of the original document. It appears, that the most populous country in Europe, that is, (or was) the Netherlands, has no more than 200 persons on each square mile; and taking this proportion for Palestine, there could only have been 1,450,000, or less than a million and half. Is it not probable then, that the numbers given, were those of the *whole* population?

Were we to avail ourselves of the Bible statement, and take between $3\frac{1}{2}$ and 4 millions, for the people of Israel; and of these, three-fourths for the $7\frac{1}{2}$ tribes carried away by Shalmaneser, that is, more than $2\frac{1}{4}$ millions, we might well rest the argument there. But even reduced to the more probable number of 700,000 and upwards, how was such a multitude to be provided for? Nor is this stated to be an act of *necessity*, but of *choice!*

* *Lands* were assigned to the *Eretrians*, by the king of Persia: as appears by the

We shall now state the particulars that are given, respecting the Babylonish captivity.

It appears then, that Nebuchadnezzar carried away the *principal* inhabitants, the *warriors*, and *artisans* of every kind; and these classes *only*; leaving behind, the *husbandmen*, the *labourers*, and the poorer classes, in general; that is, the great body of the people.*

May it not be concluded, that much the same mode of conduct was pursued by the king of Nineveh, as by him of Babylon; although it is not particularized? It cannot be supposed that either Media or Assyria wanted husbandmen, although they might want *merchants*, *men of science*, and of *letters*, and *artisans*: and that they *did* want certain of the classes which were carried into captivity, will be made evident, by their employing some of the captives in situations of trust and high command.

petition of Apollonius to Bardanes, to restore them. Nothing of this kind is said concerning the Israelites.

* "And he (Nebuchadnezzer) carried away all Jerusalem, and all the princes, and all the mighty men of valour, even ten thousand captives, and all the craftsmen and smiths: none remained, save the poorest sort of people of the land." 2 Kings, xxiv. ver. 14.

"And all the men of might, even seven thousand, and craftsmen and smiths a thousand, all that were strong and apt for war, even them the king of Babylon brought captive to Babylon." Ver. 16.

Afterwards, on the destruction of Jerusalem by the same Babylonians, on occasion of the revolt of Zedekiah, it is said that "the remnant of the multitude" that were in the *city* was carried away, and that "the poor of the land were left, to be vine-dressers and husbandmen." Chap. xxv. ver. 11 and 12. Gedaliah was left ruler over them.

On occasion of the murder of this Gedaliah, the Jews fled into Egypt, fearing the anger of the Babylonians, who might have imputed the massacre to the Jewish people in general, although innocent. These Jews, upon the taking of Egypt, were also carried into captivity. And such, says Josephus, was the end of the Hebrew nation.

The story of TOBIT throws much light on the condition of the captive Israelites in Assyria and Media: and it is very curious to remark, how the habitual industry, perseverance, adroitness, and knowledge of business, possessed by the Jews, raised them to stations of trust under their new masters; and gave them opportunities of enriching themselves. Tobit, and Achiacarus his kinsman, both held employments, either in the state, or in the royal household, or both; under the kings of Assyria, in Nineveh. Tobit was amongst the captives taken away by Shalmaneser, from the remainder of the ten tribes left on *this* side Jordan, after the two and half had previously been carried away by Tiglath Pileser: and was himself of the tribe of NAPHTALI. The following is an abstract of his history. (See the book of Tobit.)

He was made *purveyor* to Shalmaneser (or Enemessar); and, we must suppose, grew rich; for he *left* in *trust* with a friend at *Rages*, in Media, ten talents of silver. But Shalmaneser dying, was succeeded by Sennacherib, whose wanton cruelty to the captive Jews, heightened by the failure of his attempt on Judea, occasioned Tobit to fall under his displeasure: his property was forfeited, and he was compelled to flee from Nineveh, through fear of his life. The tyrant, however, was quickly dispatched, and was succeeded by his son Esarhaddon (*Sarchedanus* of Tobit), who, like his grandfather Shalmaneser, appears to have understood the value of the services of the Jews; and to have regarded them with a favourable eye. ACHIACARUS, the nephew of Tobit, was appointed to a high office in the government; and by his intercession, Tobit returned in peace to Nineveh, and was there supported by him. After this, it appears that he went into *Elymais;* that is, we suppose, to *Susa;* but neither the errand, nor the time of his stay, are mentioned. It is probable, that, as Esarhaddon united the kingdom of Babylon, to that of Nineveh, &c. he made use of Susa, as his *winter* capital, as was the practice of the Persian monarchs,

afterwards; and that Tobit accompanied his nephew, who followed the king, of course.

After this, we find him again at Nineveh (see chapter xi. ver. 16.); from whence he dispatches his son Tobias, to Rages, by way of Ecbatana, for the money. At the latter place, he marries his kinswoman, Sara; and sends a messenger on to Rages. The mode of keeping and delivering the money, was exactly as at present, in the East. Gabael, who kept the money in trust, "brought forth *bags*, which were *sealed up*, and gave them to him;" and received in return, the "*hand-writing*," or acknowledgment, which Tobias had taken care to require of his father, before he left Nineveh. The money, we learn, (chap. i. ver 14.) was left in *trust*, or as *a deposit*, and not on *usury*; and as it may be concluded, with Tobit's *seal* on the bags. In the East, in the present times, a bag of money passes (for some time at least) currently from hand to hand, under the authority of a banker's seal, without any examination of its contents.

Two camels were taken from Ecbatana to Rages, for the money. The ten talents of silver, which should have been equal in weight, according to Dr. Arbuthnot, to about 940lb. avoirdupois, might be conveniently carried on two camels. Only two persons accompanied them, which shews that the country must have been very quiet; since the distance between Ecbatana and Rages, is upwards of 200 of our miles: and, it may be observed, that Tobit regarded Media, as a more settled country than Assyria; which is shewn as well in his own conduct, as in his advice to his son.

This history of Tobit shews, not only that the Jews were distributed over Media, but that they filled situations of trust and confidence. And, on the whole, it may be conceived that the persons brought away from the land of Israel, were those, from whom the conqueror expected useful services, in his country, or feared disturbances from, in their own. In effect, that the classes were much

the same, with those brought away from Judea, by the king of Babylon: and that the great body of the people remained in the land, as being of use there, but would have been burthensome, if removed: consequently that those who look for a *nation* of Jews, transplanted into Media, or Persia, certainly look for what was never to be found; since no more than a select part of the nation, was so transplanted.

In the distribution of such captives, it might be expected that a wise monarch would be governed by two considerations: first, to profit the most by their knowledge and industry; and secondly, to place them in such a situation, as to render it extremely difficult for them to return to their own country. The geographical position of Media appears favourable to the latter circumstance, there being a great extent of country, and deep rivers, between; and it can scarcely be otherwise than that the Jews, by their communication with the Egyptians and Phœnicians, together with their own habits of life, were in possession of many branches of knowledge, that had been but imperfectly communicated to the Medes.

One cannot help adverting to the policy, which led Peter the Great of Russia, to place the Swedish captives in Siberia, in preference to the more civilized parts of his empire; namely, that his subjects in that remote part, might profit by the superior knowledge of the arts of life, possessed by these captives. Moreover, by the wide and dreary tract of country, which was placed between them and their homes, they would find it impracticable to return; at the same time, that, by remaining at large, their minds were left more at ease, than if subject to a more rigorous confinement nearer home.

One circumstance appears very remarkable. Although it is positively said, that only certain classes of the Jews were carried to Babylon, at the latter captivity; and also, that on the decree of CYRUS, which permitted their return, the principal part *did* return, (perhaps 50,000 in all,) yet so great a number was found in Baby-

lonia, in aftertimes, as is really astonishing. They are spoken of by Josephus, as possessing towns and districts, in that country, so late as the reign of *Phraates*, about 40 years before Christ. They were in great numbers at Babylon itself; and also in Seleucia and Susa. Their increase must have been wonderful; and in order to maintain such numbers, their industry and gains also must have been great. But it must also have been, that a very great number were disinclined to leave the country, in which they were settled, at the date of the decree. Ammianus Marcellinus, so late as the expedition of Julian, speaks of a Jews' town, at the side of one of the canals between the Euphrates and Tigris.*

The numbers of *Jews* reported by *Benjamin* of *Tudela* (in the 12th century,) to have resided in the different cities in the East, are so much beyond probability, that, it may be supposed, he included the *whole* population of the cities, and not that of the Jews, alone.

We shall conclude this inquiry with a short view of the report of Diodorus Siculus, concerning the Jews.

It appears that he either wrote, or intended to write, a history of the wars against the Jews, (by the kings of Syria, we suppose,) but nothing more appears, than a fragment of his xlth book, stating his intention; and giving also (probably as an introduction,) a short history of the origin of the Jewish nation, as a body of strangers in Egypt; of their expulsion from Egypt; and of their settlement in Judea; agreeing in the principal events of their history, with that of their legislator, Moses; but with a far different colouring. In another fragment (of his xxxivth book,) he gives a short account of their subjection, by Antiochus *Epiphanes*, and of his indecent profanation of the temple and altar. And again, in his first book, c. 7, he touches slightly on the subject of their religion, and institutes, in common with those of the Egyptians, Cretans, Getes, &c. From these passages, collectively, it appears, that he considered the Jews, although not as a popular, or an amiable, people, yet as a

* Amm. Marcel. lib. xxiv.

very *wonderful* people; whether in respect of their institutes, which kept them distinct from the rest of the world; of their municipal laws, which accomplished the purposes of useful education, and frugal habits (the foundation of a vast population, considering the general sterility of their country); of their unalterable firmness and patience under misfortunes; or of their obstinate bravery in combat. But he observes, that through the great change in empires that had taken place, and the consequent and unavoidable admixture of the Jews with foreign nations, many of the ancient laws and customs of the Jews, had been changed, or laid aside. If this could be said, in the days of Augustus, how different must the Jews of our days be, from those of remote times; when they appear to us unlike all the rest of the world; and a kind of STANDING MIRACLE!

SECTION XVI.

OF AFRICA AT LARGE, ACCORDING TO HERODOTUS.

Herodotus knew a greater Extent of Space *in* AFRICA, *than in the other Continents; but only the* North-east *part of it, in* detail—*In Doubt how to class Egypt.—Had no Idea that Africa extended so far to the West and South, as it really does.*—Lower Egypt *and the Promontory of* Soloeis, *taken by him for the Eastern and Western Extremities of Africa.—Conjectures respecting this Promontory; which was the Limit of the ancient Navigations.—Various Notices, shewing that the Ancients were not absolutely agreed, respecting its Position; but that the* Soloeis *of Herodotus was Cape* Cantin—*M. Bougainville mistaken, in respect of it.—Herodotus, as well as Ptolemy and the Arabian Geographers, supposed the Coast of Africa to trend to the* South *from this Cape.—Our Author knew the general Distribution of North Africa, as far as the* Sahara *and the River* Niger.—*The Geography of Egypt already illustrated by* M. D'Anville.—*Inhabitants of Africa divided by Herodotus into two Races; the* Lybians *and* Ethiopians—*common Boundary of their Possessions.—Cape* Verd, *the* Arsinarium *Promontory of Ptolemy, denominated from the* Assanhagi, *or* Sanhagæ *Tribe.—The* Abyssinians, *the* Macrobian *Ethiopians of Herodotus.*—Ethiopia *with him, included all the* remote *Part of Africa.—The* Niger *explored by the* Nasamones, *and taken by Herodotus, erroneously, for the remote Part of the* Nile; *as having an easterly Course.—The* Sources *of the* Nile, *placed in too remote a Situation by Herodotus, and the Ancients in general.—The* most distant Sources *of this River still unknown—not in Abyssinia, but more to the South-west.—Proofs adduced from* Maillet, *and from* Bruce *himself.—Report of* Ledyard.—*The Nile doubtless formed*

of two distinct Branches, the one from Abyssinia, *the other from the South of* Darfoor.—*Reports of* Ptolemy, Edrisi, *and* Abulfeda. —*Error of the two latter, in deriving the* Niger *from the* Nile.—*Extent of the African Continent, southward, according to the Ideas of Herodotus; who knew that it was surrounded by the Ocean.*

THE THIRD and LAST division of our subject is AFRICA, or LYBIA. Concerning this continent, it may be said, that our Author was aware that it contained a greater extent of space, than either of the others; although his knowledge of it, in *detail*, was more confined. Here it may be remarked, that, if his native city, Halicarnassus, be taken for a centre, it will be found, that a radius of 1000 British miles will circumscribe the whole extent of his geographical knowledge in detail. It may also be remarked, that the circle so described, passes through, or near to, the several points of Babylon, Syene, Carthage, Corsica, the upper part of the Danube, the forks of the Borysthenes, and the mouth of the Tanais. So that it included Greece, Italy, Thrace, Scythia, Colchis, Asia Minor, Assyria, Palestine, Egypt, Lybia, and the country of the Garamantes. It will be found, almost invariably, that beyond this range, our Author grows more and more obscure and uncertain, as we advance in any line of direction whatsoever: or, if any thing, he grows more obscure on the European, than on the Asiatic side. But of the absolute measure of extent known to him, by report, Africa contained a greater proportion, than either of the other two continents: or it may possibly be, that the space known, in that mode, in Africa, may have equalled that, known in Asia, and Europe collectively.

These being the circumstances of the case, it will appear that the parts of Africa best known to our Author, were those along the middle and eastern basons of the Mediterranean sea; including Egypt and Lybia, with Fezzan, and other *Oases*, in the Lybian desert. Beyond these regions, his descriptions grow less circum-

stantial; as is the case of those, of the upper part of the course of the Nile; the course of the Niger; the country about mount Atlas; and the position of the promontory of *Soloeis*. And finally, he carries us into the regions of darkness, of fable, and even of absurdity, in his descriptions of the Macrobian Ethiopians, and the people of Nigritia; of the fountains of the Nile, and the operation of the sun, on its waters, &c. In fact, the same *cause* that alotted a place, in his history, to the description of the *ants* that were said to dig up gold, in India; and to that of the mode of collecting cinnamon in Arabia; namely, the difficulty of getting at the truth; gave occasion also to the description of the table of the sun, in Ethiopia.*

Although the term LYBIA is occasionally used by Herodotus, as synonimous to AFRICA (and particularly in Melpom. 41, 42, and 45), yet it is almost exclusively applied to that part, bordering on the Mediterranean sea, between the Greater Syrtis and Egypt; and in which, *Cyrenaica*, the first Grecian establishment on that continent, is included. So that Africa, and not Lybia, is the term generally employed by Herodotus.†

It has been said, in page 166, that some doubt arises, whether Egypt, in the contemplation of Herodotus, was a part of *Africa*.

* For the description of the *ants*, see Thalia, 102. See also Arrian's description of India.

The mode of collecting cinnamon in Arabia, will be found in the same book, c. 111; and is so very extraordinary, as to bear some resemblance to one of the adventures of *Sindbad*, in the Arabian Night's Entertainment.

† The desert which separates Egypt from Fezzan, contains a *wandering* tribe, named *Lebeta*, or *Levata*. This desert is to be regarded as the *proper* desert of LYBIA: and it may be a question whether the tribe of Lebeta, although *now* found in the interior of the country, may not have originally inhabited the sea coast; and that the Greeks denominated Africa from *them*. This was the part of Africa the nearest to Greece, and the first colonized by the Greeks: and it is a known fact, that the *Adyrmachidæ* and *Nasamones*, who in the days of Herodotus, inhabited the *coasts*, were at a succeeding period, found in the *inland* parts, about Ammon and Augêla. Mr. Park saw a wandering tribe named *Libey*; and whom, he compares, in respect to their habits and modes of life, to *gipsies*.

For he seems either to have expressed different opinions in different places; or to have expressed himself ambiguously: or possibly we may not have comprehended him rightly.

In Euterpe, 17, he appears to say, that Egypt did not belong either to *Asia* or *Africa*, but was classed distinctly; or, if we may so say, it was, in respect of geographical arrangement, *extra-continental:* in effect, he thought that "the *land of Egypt* alone, constituted the natural and proper limits, or boundary, of *Asia* and *Africa.*"

He says also, Eut. 15, that the Greeks considered the *Delta alone*, as EGYPT: but in this point, Herodotus differed from them, and we think with reason, because the ancient *Egyptians*, as he observes, must have *had a country*, *before* the present Delta was formed; and probably descended from thence, to a lower situation, as it incroached on the sea; or rather, as it became habitable.

He also informs us, that Asia *terminates at* Egypt, Melp. 39; and that Lybia *begins* where Egypt ends, 41. And again, Euterpe, 65, Egypt is said to be *near* to *Africa*. *These* notices seem to be clearly in favour of that arrangement, which makes Egypt *distinct* from Africa, or Lybia.

But, on the other hand, what he says in Melp. 41, and 42, gives a very different idea. These are his words; "except in that *part* which is *contiguous* to Asia, the *whole* of Africa is surrounded by the sea:" and he goes on to say, that it was *proved*, by the ships of Necho having sailed down the Red sea, (Arabian gulf) and round the continent, to the Mediterranean and Egypt. And besides this, he says in the foregoing chapter, after describing a narrow tract of 1000 stadia, which can only be intended for the Isthmus of Suez, "*here* the country *expands*, and takes the name of Lybia." The reader will determine for himself; but it appears on the whole, as if Herodotus had either no decided opinion of his own, on the subject; or that in one of the places, he has

merely expressed the opinions of others, without explaining his own.*

Although Herodotus knew that AFRICA was surrounded by the sea; and was likewise apprized of the length of time that had been employed in circumnavigating it, yet it appears that he did not suppose, that it had so great an extent to the *south*, or that it projected so far to the *west*, beyond the columns of Hercules, as it really does. For he says, Melp. 42, that "Europe in LENGTH *much exceeds* the other two continents; but is *far inferior* in BREADTH." Thus then, notwithstanding that he extended the dimensions of Europe to an unusual length, by including the *Issedones* in it,† yet even that extent will not reach beyond the 20th degree of south latitude, in *Africa*.

The breadth of Africa, he must have reckoned from *east* to *west*; and which is undoubtedly greater by far, than the breadth of Europe: and had he confined Europe within its proper limits, the *breadth* of Africa was even greater than the *length* of Europe. But he appears to have thought that the greatest breadth of Africa was comprized between Lower Egypt, and a Promontory of Mauretania, on the coast of the Atlantic, named SOLOEIS. For Herodotus, in common with Eratosthenes, Strabo, and Ptolemy, amongst the ancients; and with Abulfeda, amongst the moderns, supposed this continent to project much less to the west, than it really does: and they appear moreover, to have placed the western extremity of *Africa*, at no great distance to the south of the *straits* of *Gibraltar*.‡ And this opinion was no doubt, formed long before the time of Herodotus.

* Polybius (lib. iii. c. 4.) supposed that *Africa* was contained between the Pillars of Hercules and the Nile.

† He supposed the *Issedones* to lie no farther to the east, than the meridian of the river *Jaxartes*. See p. 132.

‡ Ptolemy even describes the coast to trend to the *eastward* of *south*.

Our Author seems to have known the *general* extent of Africa, in *this* direction, as will be shewn in the sequel; but as the investigation is so closely connected with the particular geography of the coast of the Mediterranean, we shall reserve it until that subject is discussed in a subsequent chapter: and in the mean time, the reader may regard the opinion of Herodotus on this subject, as coinciding nearly with those of Eratosthenes and Strabo; and which differ in no very great degree, from the actual geography. The *Pillars* of *Hercules*, the Promontory of *Soloeis*, *mount Atlas*, and the *Atlantic* ocean, were objects familiar, at least in thought, to our Author: and it appears from Scylax, who wrote before Herodotus, that the extent of the Mediterranean was well known to the Carthaginians, and no doubt to the Greeks also; since Herodotus himself calls it, "the sea frequented by the Greeks."

As he places the western extremity of the Persian, or Erythræan sea (for he certainly knew not that there was a Persian gulf*) too far to the west, in respect of the Mediterranean sea, he must, of course, have believed that the Red sea, or Arabian gulf, had a northerly and southerly, instead of a NW and SE direction; otherwise there would not have remained a sufficient space for Arabia: and this would necessarily have the effect of *flattening* the *eastern* side of Africa.

It will appear clearly, from circumstances, that he regarded the Promontory of Soloeis, as the western extremity of Africa: but this idea did not go either to Cape Blanco, or Cape Verde, because he was speaking of the *inhabited* tract near the Mediterranean, and not of the central parts of Africa: nor had he, of course, any such idea of the general outline of that continent, as to be able to ascertain which part of it projected farthest to the west.†

* See pages 197, 198, of this work.

† It happens that there are two capes of the name of *Blanco*, on the western coast of Africa; one in Morocco, the other on the coast of the *Sahara*, nearest to Cape Verde. They are more than 900 miles asunder. It is the Cape Blanco of Morocco, alone, that has any reference to the Promontory of Soloeis.

The position of the Promontory of SOLOEIS, therefore, becomes of great importance towards the measure of regulating our ideas of the ancient system of African geography; and of adjusting the limits of ancient navigations; and ought, of course, to be fixed, at the outset of the present inquiry; although it will lead to details that may appear tedious. M. D'Anville has not spoken clearly to this point; but it may be concluded that he took Cape CANTIN for SOLOEIS: in which opinion we shall be found to coincide. The modern opinions have been divided, between that and Cape BOJADOR.

Herodotus, in Euterpe, 32, says, "all that part of Lybia towards the Northern sea (Mediterranean) from Egypt to the Promontory of SOLOEIS,* which *terminates* the 3d division of the earth, is *inhabited* by the different nations of the Lybians; that district alone excepted, in possession of the Greeks and Phœnicians. The remoter parts of Lybia, beyond the sea coast, and the people who inhabit its borders, are infested by various beasts of prey.—The country *yet more distant*, is a parched and *immeasurable desert*." Here he clearly distinguishes three belts or regions, parallel to the Mediterranean, the northernmost of which, we must of course conceive to have been that, which extended along the sea coast, and was bounded on the south by mount Atlas, and other ridges: the middle one, that called the country of Dates; and the third, the great desert, or Sahara, itself.† In consequence, the northernmost, or that between mount Atlas and the Mediterranean, should contain the Promontory of SOLOEIS; supposed in this passage, as well as in the one that describes the voyage of *Sataspes*, in Melpom. 43, to be the most western land of Africa: for in the first instance, it forms one extremity of the habitable tract, of which Egypt is the

* *Soloeis*, in Euterpe, 32: *Syloes*, in Melp. 43. In Hanno's Periplus it is *Soloeis*. Pliny calls it *Solis*.

† Abulfeda's division is differently arranged: he goes from *west* to *east*, but making also *three* divisions.

opposite extremity: and in the second, it was the point, from whence the voyager *first began* to pursue a southerly course, in his way from the straits.

Much the same idea of the relative position of Soloeis, arises on a perusal of the journal of the voyage of Hanno; although this document does not afford a regular chain of distance, or any positive notices of position, till we arrive at *Cerné (Arguin)*. It therefore becomes necessary to examine at large, this part of the journal.

The substance of it, is, "that having founded the *first* city, *Thymiaterium*,* at two days' sail beyond the Columns (of Hercules), and proceeding *thence* towards the *west*, they came to *Soloeis*, a Promontory of Lybia, thickly covered with trees,† where they erected a temple to Neptune—and again proceeded half a day towards the *east*, to a lake near the sea, full of reeds; and where elephants, and other wild animals were feeding."‡

"That having passed the lake, two days' sail, they founded other cities, near the sea, *five* in number,§ the third of which, in the order of their route, was *Acra*. Thence they came to the great river *Lixus*, which flows from Lybia, (or rather from mountains situated amongst the *Ethiopians,)* and has on its banks, the *Lixitæ*, a shepherd tribe, with whom the Carthaginians continued some time on

* The *Thamusida* of the *Antonine Itinerary*, p. 7, may be taken for this place, it being 126 MP. from *Tingi*, (Tangier) say 94 G. miles direct. Hence it falls near the river of *Mamora*. The distance *may* have been sailed in two days, on a *known* part of the coast; as this, no doubt, was.

† We have examined the views of land in the new Spanish Charts of Don Tofiño, 1788, but do not find that either of the Capes *Blanco*, *Cantin*, or *Bojador*, are woody. But this is nothing to the purpose; for Hanno, at that time probably, would have found the *Hebrides* of *Scotland* covered with wood.

‡ That herds of elephants were in this quarter we learn from Pliny, (lib. v. c. 1.) who says that they were very troublesome at the river *Sala*, *(Salee)*.

Sala appears to have been a place of note anciently, as well as at present. It is the *Salaconia* of the Itinerary.

§ *Caricon-ticos*, *Gytte*, *Acra*, *Melitta*, and *Arambys*.

friendly terms: and who appear to have been old acquaintances. Beyond this tribe, dwelt the inhospitable Ethiopians. Leaving their friends, after obtaining interpreters from them, they coasted a desert shore, *three* days, and arrived at the island of Cerné; doubtless Arguin. The first *two* days they sailed *southerly*; the third, *easterly*." See the Map of the Voyage of Hanno, sect. XXIII.

It is certain that this chain of distance, from its being broken and imperfect, proves nothing, when taken *altogether*; but the parts of it, taken *separately*, and with a reference to other notices, prove, or at least induces a belief of, a great deal. The distance from the strait of Gibraltar to Cerné, may be about 1230 G. miles, along the coast; amounting to about 35 days' sailing, according to the rate arising on that part of Hanno's route between Cerné and the river Gambia: that is, 34 to 35 miles per day, for 14 days: and which accords generally with the rate of sailing of ancient ships, deduced from a great number of examples.* Only $6\frac{1}{2}$ days however, are *specified*: but it plainly appears, that one space is implied, between Thymiaterium and Soloeis; and another, in which the five cities were founded, between the latter and the *southernmost* river of Lixus: and these cities cannot be supposed to have been *very near* to each other. In course, a great many days' sail are omitted, though evidently implied.

It may be remarked, that the position of the coast, is such, as not to admit of a ship's sailing *eastward* for half a day, after passing Cape Bojador: but such a position of the coast is really found between Cape de Geer and Santa Cruz, round the southern termi-

* It is known that a constant current runs to the southward, along this coast; at least, within the limits of the settled northerly wind. This, of course, must have lessened the number of days' sail, and explains the cause of the error, in the calculation made by Hanno; where he supposes Cerné to be no farther to the *south* of the strait, than Carthage was to the *east* of it. It also furnishes a strong presumptive proof in favour of the veracity of the journalist.

The ancient rate of sailing will be given in the sequel: at the same time we shall apprize the reader that the result is about 35 G. miles, or about 40 British.

nation of mount Atlas: and therefore, following, in our idea, the obvious meaning of the journal, one can only take for the Soloeis of Hanno, some one part of the coast between Cape Blanco and Santa Cruz; that is, between the parallels of $30°\frac{1}{2}$ and $32°\frac{1}{2}$: and conclude, of course, that the *five* cities beyond it, were situated along the coast of the province of Sus,* and in the bay southward of Cape *Nun*: but certainly *short* of Cape Bojador.

Scylax of Caryandra says, that the distance is 12 days' sail from the straits to Cerné: that is, two to the Promontory of *Hermæus*, three thence to Soloeis; and seven more to Cerné. This requires a rate of 104 miles per day: and is nearer to *that*, which might be expected from a modern ship, than an ancient one. But his Periplus within the straits, gives a rate which is generally not very different from that of other ships of those days: or about 36 G. miles.† It must be allowed that the many examples adduced, ought to have more weight, than those alone, between Carthage and Cerné, even if the *general* rate of Scylax did *not accord* with the rest. Besides, the Periplus of Hanno above quoted, furnishes the strongest presumptive proof that the rate of Scylax did not exceed, but rather fell short, of that Periplus. For, this latter places Thymiaterium at two days' sail from the straits; and Scylax allows the same distance between the straits, and the *Hermæum* Promontory, which place he describes to be short of Thymiaterium: consequently, by his account, this place must be *more* than two

* The southern province of the kingdom of Morocco.

† For instance, he says it is $75\frac{1}{4}$ days' sailing from Canopus to the Columns, tracing the sinuosities of the coast; we conclude, according to the usual mode of coasting. This gives a rate of 32 G. miles per day, and Hanno's rate between Cerné and the Gambia is 35, on 14 days' sailing. At the same time it must not be omitted, that Scylax says, that the voyage between Carthage and the Columns may be performed in seven days and nights, with a favourable wind. This requires a rate of 107 for each day and night, and is not very different from the 12 between the Columns and Cerné. But the same authority allows generally 36 only, within the straits, in a variety of instances. How are these accounts to be reconciled?

days' sail from the straits. He then reckons three more days to the Promontory of Soloeis; which distance, according to the same proportion, can only reach to Cape Blanco; but nevertheless, considering the vague nature of his description, Cape Cantin may have been intended. As to the remainder of his chain of distance, it is not worth regarding; as he reckons only seven days between Soloeis and Arguin.

Pliny says, (lib. v. c. 1.) that the river *Lixus*, (that is, the northernmost of the two, of that name, and the *Lucos* of the present time; a position well known;) is 57 MP.* from *Tingi*, (or Tangier;) and *Rutubis* 313 MP. farther: and he adds, that *still farther on*, is the Promontory of *Solis*. The 313 will reach to Saffy; allowance being made either for the inflexions of the land route, or those of a coasting voyage. Hence *Saffy* may be taken for *Rutubis*, or rather *Rusibis Portus*, as we find it in Ptolemy, who places it within 10 minutes of the true latitude of Saffy. The Promontory of *Solis* then, is by Pliny's account, to be looked for *beyond* Rusibis, or Saffy; although it is not said *how far*: but Pliny could not at any rate have had Cape Bojador, which is about 6 degrees to the south of Saffy, in contemplation. And as Ptolemy has a promontory named *Solis Mons*, at about 70 miles to the southward of Rusibis, we may suspect that it was intended for the same place as the Solis of Pliny; and possibly too, for the Soloeis of Herodotus, of Hanno, and of Scylax; though somewhat misplaced. Nor could Ptolemy have had Bojador in contemplation, because his Solis Mons is placed four parts in five, nearer to Atlas Minor, than to Atlas Major; or in other words, to Cape Cantin, than to Cape Bojador.

If we may regard the Solis Mons of Ptolemy, as the Promontory

* In two numbers, 25, and 32. The Itinerary has 54 MP. between *Tingi* and *Lix*, which differs little from Pliny, and is justified by the distance of the *Lucos* R. from *Tangier*.

Pliny says that another authority gave 112, which must be a mistake.

of Soloeis itself, this may be reckoned a *positive* notice respecting its situation; and indeed, the only one that occurs: although the presumptive evidence of Hanno and Scylax is very strong. But there is some difficulty in supposing that the promontory intended by the above writers, formed any part of the *comparatively* straight coast, which is found between the Capes of Cantin and Geer, when the characteristic distinction of Soloeis seems to have been *promi-nency*, beyond the line of the coast to the northward of it.

There are few parts of Ptolemy's geography, in which the latitudes agree so well with the modern observations, as in the part between the Strait of Gibraltar and C. Bojador. In effect, there is a remarkable coincidence in many points, as will appear by the subjoined table;* so that this part of the coast must have been much

* Comparison of certain parallels, in Ptolemy, with the modern observations, and charts.

Ptolemy, Africa Tab. 1.	°	′	Modern Observations.	°	′
Strait of Hercules	36	0	C. Spartel	35	48
Sala River	34	10	Salee R.	34	2
Macanitæ	33	30	Mazagon	33	20
Atlas Minor	33	10	C. Blanco	33	20
			C. Cantin	32	33
Rusibisis Ptus	32	30	Saffy (Bay)	32	20
Diur R.†	31	40	Mogadore	31	25
Solis Mons	31	20	Tafelane Point	31	0
Hercules Prom.	30	0	C. de Geer	30	38
Tamusiga	30	0	Tamara	30	29
Usadium	29	15	Agulon	29	10
			C. Nun	28	40
Una R.	28	30	R. Nun	28	26
Atlas Major	26	25	C. Bojador	26	20
Subas R.	25	0	Ouro R.	23	34
Gannaria extrema	20	20	C. Blanco	20	47
			Arguin	20	26
Bagazi	18	50	St. John's R. Mirie Point	19	13
Daradus R.	15	0	Senegal R. mouth	15	52
Arsinarium Prom.	12	0	C. Verde	14	48
Stachir R.	11	0	Gambia R. mouth	13	30

† We cannot help regarding the *Pæa* Island of Ptolemy in lat. 32°, as being intended for *Madeira*. The latitude differs but little, but it is certainly too near to

frequented: but, it is very remarkable, that, although the parallels are so generally exact, the bearing is out full four points of the compass; it being nearly S b. E, in Ptolemy, when it is in reality about SW b. S.* And hence it may be collected, that, when the latitudes could not be applied to the correction of the bearings, the ancients formed very erroneous calculations of them.† But this does not in the present case, destroy the harmony of the positions, in respect of each other, so far, as to prevent them from being recognised, by means of the general resemblance of the figure of the coast, combined with the parallels.

But to the south of *Atlas Major* (Bojador) the latitudes are not only in general wrong, but the figure of the coast loses all resemblance to the truth, until we come to Cape Verde: for even Cape Blanco (of the Sahara), which is the most prominent part of the coast, recedes, in the descriptions of Ptolemy, *within* a direct line drawn from Cape Bojador to Cape Verde. This latter is also about $2\frac{3}{4}$ degrees too far south; the mouth of the Gambia $2\frac{1}{2}$ degrees: and that of Senegal nearly a whole degree.

By a reference to the comparative table of latitudes (in the note) and to the geography of Ptolemy, it will appear, that *Atlas Minor*, the most prominent feature of the coast, in that geography, answers

* Between C. Spartel and Bojador, the diff. lat. is 568, and the departure 410; whence the bearing is about S 36° W: Ptolemy has S 10° E: whence the error is about 46°.

† Thus, the *eastern* shore of the Mediterranean lies nearly NE and SE, in Ptolemy; instead of about N b. E, as it ought to be.

the coast of *Africa*, by many degrees of longitude. But as the *Fortunate Islands* were known to Ptolemy (his *Erythia*, in 29°, must have been intended for one of them, probably Fortaventura), what island so far to the north as 32°, could have been meant, but *Madeira?* This conjecture, in our idea, is rendered more probable by the description which Diodorus (lib. v. c. 2.) gives, of a large island, fertile, well *wooded* and watered, and situated at many days sail to the *west* of the coast of Africa. It was said to be discovered by certain Phœnicians, who were blown by a storm into the Atlantic, as they were coasting Africa.

the nearest to Cape Blanco (of Morocco); which cape, together with that of St. Vincent, forms what may be called the mouth of the *funnel*, that conducts the stream of current from the Atlantic into the Mediterranean. But it also appears, that Ptolemy confounded Cape Cantin with Cape Blanco; and that *one* cape serves for *both* in his geography, although they are more than 20 leagues asunder. This is proved by the *suite* of positions, from C. Blanco, northward, and C. Cantin, southward; for immediately to the N. of Atlas Minor, is *Macanita*, which is succeeded by *Sala*; as in our geography, *Mazagon* and *Salee* lie to the N. of Cape Blanco. Again to the south of Atlas Minor, is found, in Ptolemy, the port of *Rusibis* and the river of *Diur*, answering in like manner with *Saffy* and *Mogador*.

The promontory of *Hercules* agrees pointedly to Cape de *Geer*, which is the proper termination of the ridge of *Mount Atlas*, on the coast. Ptolemy took Cape Bojador (his *Atlas Major*) for it: so that it happens that neither of the promontories denominated by him from the supposed commencement and termination of the ridge of Mount Atlas, are, in fact, connected with it; which no doubt proceeded partly from his ignorance of the inland country; partly from its being described merely from hearsay. They were, however, the most prominent points of the coast; whilst the name of *Solis* is by him applied to a much less prominent part.

From a review of the argument, then, it appears, that the *Soloeis* of Hanno, and of Scylax; and the *Solis* of Pliny and of Ptolemy; must have been situated between the Capes *Blanco* and *Geer*, on the coast of Morocco: in which quarter also, the Soloeis of Herodotus, as being a part of the *inhabited* tract, must of necessity be situated.

From an expression (in Hanno) it might be concluded that Cantin was the Solocis intended. It is said, that from Thymiaterium "they proceeded to the *west* to Solocis:" and Cantin is the point from whence the direction of the coast changes from westward to southward, in a greater degree than any where else, within

the space in question. The Soloeis of Scylax may be either C. Blanco, or C. Cantin; but more probably the latter.

The *Solis Mons* and *promontory* of Ptolemy and Pliny, are more to the south; or between Cantin and Geer: but as there is no remarkable prominency of the coast between Cantin and Geer, the latter of which is the Hercules promontory of Ptolemy, it is difficult to assign the place of *Solis*. Ptolemy places it to the south of the river *Diur*, which we take for that of *Mogador*; and to the north of *Mysocorras*, taken for *Meci*. Consequently, as the point of *Tafelane* lies between, *this* should be the Solis promontory of Ptolemy. That of Pliny may be supposed to be nearer to Saffy; and hence it would appear, that different navigators, or geographers, called different capes by the name of *Soloeis* or *Solis*; which is by no means extraordinary, as instances of a like kind have happened in modern times: and we even find two rivers of the name of *Lixus* on this coast.

Our idea of Soloeis ought, no doubt, to be regulated by the early authorities, such as that of Hanno, and of the Carthaginians in general; which was probably the idea followed by Herodotus: and he expressly intends by it, as we have seen, the western extremity of the *inhabited* tract of Africa, along the Mediterranean sea; in one instance; and in another, a promontory which formed the chief obstacle to navigators, in clearing the western lands of Africa, in their progress southward. It has also appeared, that the ancients in general agree in placing it within the space between C. Blanco and C. de Geer: and moreover, that they supposed the coast to trend to the south, from about the position of Soloeis. So that, on the whole, we must conclude *that* to be the promontory intended, from whence the coast turns sensibly to the southward, after projecting westward, from the neighbourhood of the strait of Gibraltar. For, the circumstance that seems to have marked it, was, the difficulty of doubling it from the northward, with the prevalent winds of that region; which are *westerly*; and which difficulty was greatly increased by an indraught of current towards the mouth of the strait. This indraught

is clearly proved by the journals of ships, which describe a motion of the sea in every direction from SE to NE, as they advance from a station in the Atlantic, opposite to Cape St. Vincent, towards another station opposite to Cape Blanco.

When Cape Cantin, or Soloeis, was once doubled, the wind, which before might have been adverse, would serve tolerably well, until they arrived within the limits of the NE trade wind (or rather of the *northerly* wind, said to be the prevalent one, near the shore), which would doubtless happen, before the coast again trended much to the westward; although the group of Canary Islands are known to disturb the regularity of the trade wind, occasionally. And as Cape Bojador itself lies in about 26 degrees of latitude, we cannot conceive any difficulty in doubling *it* from the northward, on the score of the winds, provided that ships sail at a proper distance to clear the shallow water, and *ripling* of the current, said to disturb the water beyond it.* In a word, it may be conceived, that only the Capes *Cantin* and *Bojador* can have any claim to a preference in this matter; and *that*, from their *prominency* beyond the line of the coast; and for which quality the Promontory of Soloeis seems to have been distinguished. In point of relative situation, Bojador, from what has appeared, is absolutely out of the question: and it

* It is certain, that in the history of the early part of the Portugueze discoveries, there is much stress laid on the difficulty of doubling Cape *Bojador*; which was said to be so named, from its great projection, westward, from the line of the coast. However, it is very difficult to conceive, how, within the tract of the northerly winds, a ship should find any difficulty in making her way to the south; as the current also, sets that way. It is equally astonishing how the Portugueze, the best mariners at that day, should have found a difficulty in accomplishing a task that was performed by the ancient navigators.

It is indeed given out, that the strong current round C. Bojador occasions a frightful *ripling*, and a breaking of the sea, on the sands that extend to six leagues off: and that even the Portugueze mariners were terrified: and that it was the *ne plus ultra* of the Spanish navigation till A. D. 1432; when it was found, that by keeping at a proper distance from the shore, the passage might be effected. (Astley's Coll. Vol. i. p. 11.; who refers to *Barros*, dec. i. b. i. c. 2.; and to *De Sousa*, lib. i. c. 1.)

must then be concluded, that Cantin was the Promontory intended by Herodotus, and the Greeks in general; whilst Pliny and Ptolemy placed it more to the south, perhaps from misapprehension: but as to Bojador, no one of them seems to have looked so far to the south.

M. Bougainville's Soloeis is however Cape Bojador; and he places all the five cities, of which *Acra* is the third in order, from Soloeis, between Bojador and the river Ouro, taken by him for the *greater* Lixus. But, independently of other circumstances, one finds in M. Delisle's Map of Africa, a town named *Arca*, together with several others, between Mount Atlas and Bojador; and even if *this* be not the Acra of Hanno, it is a more likely situation for towns, on that Continent, than the *desert* coast, on the south of Bojador. But in fact, M. Bougainville allows, out of all proportion, too great a rate for the sailing of Hanno's fleet; for when we find 300 miles allowed for the two first days between the straits and Thymiaterium, as he does, one need not be surprized at his transporting that commander to Benin, whilst others cannot suppose him to have gone much, if at all, beyond Sierra Leona; that is, only $\frac{2}{3}$ of the distance to Benin.*

The *greater* Lixus it may be difficult to place: though the river St. Cyprian answers to the distance of three days sail, short of Arguin (or Cerné), on the proportional rate between the *latter* and the river Gambia. But the description does not seem to accord, either with that, or the Ouro: for neither of them appears to be a *great* river, or to have any *length* of course; and the Lixus was said to possess *both* of those qualities. However, if we may judge by what passes elsewhere, great changes may have happened in respect of the course of the Lixus: for the principal stream of the *Oxus (Jihon)* which once flowed into the SE part of the Caspian, flows no longer in its former channel. And this has probably arisen partly from sand blown into, and arrested by the surface of the river, when *low*;

* See Mem. Acad. Inscrip. Vol. xxvi.

partly from its own depositions, when *swoln*. In like manner, the Lixus may have now ceased to flow into the sea, "from the Lybian mountains;" and may form an inland lake: nor should we be surprized if the *Wad-Drah* (or river *Drah*) should have been the Lixus. That river is now lost in the sands of the Desert, according to Abulfeda.*

We have been unavoidably led into this long disquisition, for which we crave the reader's indulgence.

Thus then, our Author evidently supposed the western side of Africa to trend to the south, from about the parallel of 33°; but what his ideas of the form or extent of the Continent may have been, we have no means of knowing. It may however, be collected, generally, from his vague comparison of the proportional extent of *Africa* to *Europe*, that he supposed the former to extend very far to the south of the equator; but the consideration of this part of the subject must be deferred, until we come to the inquiry concerning Herodotus's idea of the position of the sources of the Nile.

It appears from the various notices scattered about, in different parts of his history,† that Herodotus had heard a great deal concerning the interior parts of Africa, most of which was probably collected during his residence in Egypt. It has already been shewn, page 414, that he distributes the great body of Lybia (but in which, Egypt is not included), into three regions; the interior or southernmost of which "is a parched and immeasurable desert." Euterpe, 32. This desert is again mentioned, in Melp. 181, and is said "to extend from the Egyptian Thebes, to the columns of Hercules;" ‡ and, in 185, it is said to be "a vast and horrid space, without water, wood, or beasts; and totally destitute of moisture." All these descriptions clearly refer to the great African desert, or SAHARA, whose character

* Tab. III. Africa; article *Darah*. † Melp. 181, 185, and 191; and Euterpe, 31.

‡ "The Africans (says he) who inhabit the sea coast, are *nomades*: the more inland parts, beyond these, abound with wild beasts; and remoter still, is *one vast desert*, from the Egyptian Thebes to the columns of Hercules."

he seems to have understood distinctly; but it will also appear, in the sequel, that he had heard of the great *inland** river of Tombuctoo and Kashnah (in effect, the *Niger* of the Romans), which flowed *beyond* the borders of this desert.

His descriptions of the several tracts of inland country, are oftentimes so brief, that *whole regions* are disposed of in a single line. But he enters particularly into the description of the provinces, along the coast of the Mediterranean, from *Egypt* to the neighbourhood of *Carthage;* and is yet more minute, the nearer he is to the seat of his inquiries, EGYPT; concerning which country, and its immediate dependencies, he is well known to have entered into very minute and interesting details; not excepting also its geography. But this is a part of Herodotus which has been so well illustrated, and even rendered familiar by the writings of several eminent persons, that it would be unnecessary, if not presumptuous, in us, to undertake the subject. We mean only to say a word concerning its ancient architecture, with a view to prove that both it, and the mythology of Egypt, were extended far into the Lybian desert: and to make some observations on the ancient and present state of the alluvions of the Nile, from whence much may be learnt respecting those of other rivers.

The ancient geography of *Egypt*, in particular, has been so well illustrated by M. D'Anville, that it would be idle in us to attempt a new system of it, unless a fresh stock of materials had been previously collected. It is however true, that certain parts of it require correction; particularly the Isthmus of Sucz, the head of the Delta, and certain other parts. And these corrections we are enabled to effect, by means of observations published since the time of that great geographer.

It may be proper, however, to remark, in this place, that, in the report of Herodotus, respecting the *extent* of Egypt, he has made use of a *stade* which is totally different from *that*, which he uses,

* Used in contradistinction to those which reach the sea.

when he refers to *Greece*, or to *Persia*. This appears in a remarkable instance, where he assigns an equal number of stades, within 15, to the space between *Athens* and *Pisa*, as between *Heliopolis* and the *sea coast* of Egypt; although the former be about 105, the latter 86 G. miles, only; the one giving a proportion of 755, the other of 1012, to a degree. So that he appears to have used stades of different scales, without a consciousness of it. (See pages 16 and 19 of this book).

A like proportion appears, in his calculation of the length of Upper Egypt, and the breadth of the Delta: but he gives different dimensions of the Delta in different places; and in all, a greater number of stades than are allowed by others.* In the *comparative* extent of *Upper* and *Lower* Egypt, he is pretty exact, although the scale be faulty. In the discussion of the stade, in page 19, we have supposed that his error arose from a faulty evaluation of the *schœne*, an Egyptian measure: and this seems conclusive from the reports of Eratosthenes and Strabo, respecting the distance between Syené and Alexandria. For these, the reader is referred to p. 24.

Concerning the course of the Nile, above Egypt, we shall speak hereafter.

Herodotus divides the inhabitants of Africa, generally, into two races; (with the exception of strangers, who were the PHŒNICIANS and GREEKS). "The natives," says he, Melp. 197, "are the AFRICANS and ETHIOPIANS; one of which possesses the *northern*, the other the *southern*, part of Africa." By these nations are evidently intended the MOORS and the NEGROES; which two classes are as distinct at the present day, as in ancient times; and apparently have not *greatly* varied their ancient limits; although the Negroes may in many instances have received new masters from amongst the Moors.

The common boundary of the Africans and the Ethiopians, in ancient times, may be placed at the southern border of the Great

* Respecting the Delta and its alluvions, we shall speak in a future Section.

Desert. Hanno found the Ethiopians in possession of the western coast, about the parallel of 19°: and Pliny, lib. v. 31, places them at five journies beyond Cerné, which agrees nearly with the report of Hanno. At present the Negroes are not found higher up than the Senegal river; or about 17°; and that only in the inland parts. It appears that the Senhagi tribe, who are not Negroes, possessed the coast about Cape Verde, in the time of Ptolemy.*

The Nasamonian explorers, mentioned by Herodotus,† when they approached the great *inland* river of Africa, or that of Tombuctoo and Kashnah (the *Niger*) found a different race of men, from what they had before seen; and who spoke a different language. They indeed called them a *dwarfish* ‡ people, and of a *black* colour: the latter particular seems decisive of their being Negroes; as they must have been much blacker than the people of the coast

* Cape Verde is the *Arsinarium* promontory of Ptolemy. We learn, that when the Portugueze first explored the western coast of Africa, between Morocco and Guinea, in 1446, the tribes or nations of the *Assanhaji* and *Jalofs*, were separated by the river of *Sanhaga* (Senegal); the former being to the *north*, the other to the *south*, of it.§ The Assanhaji are the Zenhaga of our maps; and the Sanhagæ of Edrisi and Abulfeda: a nation which, in the times they describe, appear to have occupied the tract between Morocco and the Senegal river, and between the shores of the ocean and Agadez inclusive. The early voyagers speak of the *Sarrah* of the *Assanhaji;* meaning the Sahara, or Great Desert: Abulfeda also mentions them, as the governing people in Audagost (Agadez): and as possessing the southern part of Morocco. They are therefore properly the people of the Great Desert and its environs. Doubtless the Portugueze named the river now corrupted into Senegal, from them; as Ptolemy did the Promontory Arsinarium (Cape Verde), whence we may infer, that they *then* possessed both sides of the Senegal river, called by Ptolemy, *Daradus*.

At present the Sanhaga tribe are placed, by geographers, at no great distance from the coast of the ocean, between the rivers of Nun and Senegal; and the Jalofs between this latter and the river Gambia: both of them in the position in which the early discoverers found them.

† Euterpe, 32. Of these more will be said, presently.

‡ Sataspes also reported that he saw a *dwarfish* people on the coast of Africa, far to the south. Melpom. 43.

(§ Astley's Collection, Vol. i. p. 13, 14.)

of the Mediterranean to have warranted the distinction.* They must also have been humane, in that they do not appear to have ill-treated the strangers, who came amongst them, in an odd, if not in a suspicious manner: and this *trait* of character belongs to the Negroes in their natural and unmixed state. They may, indeed, not unaptly be styled the HINDOOS of AFRICA.

Again, Ethiopia approached to the boundary of Upper Egypt, in the eastern part of Africa, in the idea of Herodotus: † and this may perhaps be styled Ethiopia *proper*; answering to Nubia and Abyssinia. "Ethiopia," says he,‡ "which is the extremity of the habitable world, is contiguous to Arabia, on the SW. It produces gold, in great quantities; elephants, with their prodigious teeth; trees and shrubs of every kind, as well as ebony: its inhabitants are also remarkable for their size,§ their beauty, and their length of life." Thalia, 114. ||

The *Macrobian* Ethiopians appear as if meant by our Author for a different people from those bordering on Upper Egypt; for, in Thalia, 17, they are said "to inhabit that part of Lybia which lies towards the Southern ocean (Indian sea)." But as the people of *Elephanta* understood their language; and as the description of them in Thalia, 97, agrees with that of the Ethiopians *above* Egypt (in 114); we conclude the Macrobians to be the *Abyssinians*, (whose dominion might even extend south-eastward to the ocean); and that the Ethiopians which were conquered by Cambyses in his march towards the Macrobians, and who also served in the war of

* Herodotus says of the Ethiopians of Africa, Polym. 70, that they "have their hair more crisp and curling than any other men."

† Thalia, 97, and Euterpe, 29.

‡ Thalia, 114.

§ This is poetically expressed by Thompson,

——— The floods
In which the *full-formed* maids of Afric lave
Their jetty limbs;——— Summer, v. 811.

‖ Herodotus remarks, that "whatever may be the cause, the Africans are *more exempt from disease* than any other men." Melp. 187.

Greece, under Xerxes, Thalia, 97 and 17, were the *Nubians*, situated between Upper Egypt and Abyssinia.*

It is certain, however, that Herodotus (like the rest of the ancients) gives a wide range to Ethiopia; since he designs by it, the whole southern part of Africa; extensive, as from his own descriptions, he must have conceived it to be. For, it was with him "the extremity of the habitable world;" and included all those countries, which, for want of the means of discrimination, he was compelled to comprize in one mass; as *we* may do, by the remote inland parts of *North America*, or *New Holland*.

The exaggerated length of course of the Nile, strengthened his error respecting the extent of Ethiopia *proper*; although the remote sources of this famous river were regarded as unknown to *strangers*, then, as they truly appear to be, at the present day. Speaking of the sources of the Borysthenes, Melp. 53, Herodotus says,—"the sources of *this* river, like those of the *Nile*, are to me unknown, as, I believe, they are to every other Greek." But it was, nevertheless, supposed by Herodotus, "that the course of the Nile, without reckoning that part of it which flows through Egypt, was known to the extent of four months journey, partly by land, partly by water:" that is, to the country of the *Automoli*,† which was so

* Mr. Bruce (we know not what authority he had for the supposition) is of opinion that the *Gongas* and *Gubas* are the Macrobians. Vol. iii. p. 259. These people inhabit two small provinces or districts, of Abyssinia. But from the context of the history, the Macrobians must be regarded as a considerable nation; since their monarch sent a message of defiance to Cambyses.

† The Egyptian garrisons stationed in *Upper Egypt*, against the *Ethiopians*, having been kept without relief three years, with one consent revolted to the enemy, and received from their new masters, a district for their maintenance; situated, as we might have supposed, in a very remote part from Egypt. They are said to have had a sensible effect in civilizing the *Ethiopians*. Eut. 30.

Being at first pursued by *Psammeticus*, who adjured them not to desert their country and their wives and children, they are said to have signified in an indecent way, that wherever they went, they should doubtless obtain both wives and children. During the late distressing mutiny, and revolt of a part of the fleet, it is said that

far distant, that the city of Meroe lay *midway* between *it* and Upper Egypt.—" It is certain (says he) that the Nile rises in the *west*, but beyond the *above point*, all is uncertainty; this part of the country, being from excessive heat, a rude and uncultivated desert." Euterpe, 29, 30, and 31.

Herodotus then proceeds to state the adventures of certain *Nasamones* (before alluded to) who came from the neighbourhood of Cyrene, and made an expedition into the *interior* part of Africa, with a view to extend their discoveries beyond all preceding adventurers; and who may therefore with propriety be styled the AFRICAN ASSOCIATION of that day. The distance to which they penetrated is not told; but it was apparently, *very far*; " first proceeding through the region which was inhabited, they next came to that which was infested by wild beasts; leaving which, they directed their course *westward, through the Desert,*" and were finally taken prisoners, by *black* men of a *diminutive* stature, and carried to a city " washed by a *great river*, which flowed from *west* to *east*, and abounded in *crocodiles !** Euterpe, 32.

He adds, Euterpe, 33, " that according to the opinions of Etearchus, sovereign of the state of Ammon (from whom this relation came), the river in question, was the *Nile.*" This, continues Herodotus, " probability confirms—the Nile certainly rises in *Lybia*, which it divides: and if it be allowable to draw such a conclusion, it takes a similar course with the *Ister.*"

a like answer was made by some of the mutineers, though not accompanied by the act of indecency, recorded by Herodotus. It is worthy of remark, that Bruce mentions certain people who had revolted, or deserted, in modern times, and formed a community in Abyssinia.

* In the description of the Indus, Herodotus calls it the *second* river that produced *crocodiles*, meaning the *Nile*, as the first. But here we have a *third*: and *Hanno*, who doubtless preceded him, mentions the *Senegal* river (though not *by name*), which makes of course, the *fourth*.

It may, however, with great probability, be supposed, that the river seen by the Nasamones, was that which, according to the present state of our geography, is known to pass by Tombuctoo, and thence eastward, through the centre of Africa (in effect, the river commonly known by the name of NIGER); but which we cannot agree with Herodotus, in supposing to be the upper part of the Nile, from the following circumstances:

First, the great difference of level that must necessarily exist, between the Niger and the Nile, admitting that the former reached the country of Abyssinia. For, by that time, it would have run at least 2300 G. miles, in a direct line; and near 2000, after it had *descended* to the *level* of the Sahara, or Great Desert. And the Nile, at the point where the White River (which alone can be taken for the Niger, if such a confluence can be supposed) falls in, has more than 1000 such miles to run, before it reaches the sea; and has, moreover, two or more cataracts to descend, in its way. Besides, Abyssinia is positively a *very elevated tract.* Mr. Bruce, Vol. iii, p. 642, inferred from his barometer, that the level of the source of the Nile, in Gojam, was more than *two* miles above the level of the sea: and this is repeated in pages 652 and 712; where he says "fully" two miles.

Again, in p. 719, he says, that the *flat* country of Sennar is *more than a mile* lower than the high country of Abyssinia.

The second circumstance is, that the Niger, throughout the tract of *Nigritia*, in common with all the rivers of that region, swells with the periodical rains, and is at its *highest pitch*, when the Nile is under the like circumstances, in Egypt.* Now, considering how long a time it would require for the waters of Nigritia

* This is a circumstance mentioned both by Mr. Park, and by Major Houghton, late in the service of the African Association. It was also known to Pliny; who says, "that the *Niger* swells at the same season with the Nile, and that its products are the same." (Lib. v. c. 8.)

to reach Egypt, the effect ought surely to be, that instead of what happens, at present, the Nile ought to be kept up to nearly its highest point, *a very long time* after the Niger.

It should also be remarked that the reports of the Arabian geographers state, that the western streams which they suppose to communicate with the Nile, *are derivations from*, instead of *adjuncts to*, that river.*

To us, it appears more probable that the remote sources of the Nile are rather to the *south*, than the *west*; or nearer to the meridian of Abyssinia (though by no means *within* that country); in which position, Ptolemy, Edrisi, and Abulfeda place them; though greatly *too far* distant to the southward: for Ptolemy places them in $12\frac{1}{2}^{\circ}$ south latitude, Edrisi, in 16°: and Abulfeda appears to follow Ptolemy.† If the four months journey allowed by Herodotus, be reckoned at no more than 10 G. miles per day, on a straight

* Such were the opinions of Edrisi, and—Abulfeda, of which more presently.

† If it be supposed, as it ought, that Ptolemy placed the remote head of the Nile according to *certain data*, and that he erred only in the adjustment of his scale of distance, and in the bearing, his error may, in a great measure, be corrected, by comparing his position of the *Coloe* lake (the *Tzana* and *Dambea* of others, and the head of the Abyssinian branch), with the modern accounts. We find this lake in Ptolemy, too far to the south by 12 degrees; that is, at the equator, instead of 12° N, as in Bruce's Map. If we apply this difference as a corrective to the position of Ptolemy's SW source, it should be placed about half a degree to the south of the equator. This is, indeed, a coarse way of making the correction, but it has appeared that the statement of Herodotus carries the remote *known* part of the Nile to about three or four degrees north latitude, whilst the source was yet more remote; and, probably, in his idea, near to the equator.

It may however be proper to remark, that Ptolemy was not aware, that the eastern Nile performed the early part of its course in a curvilinear direction, *southward*, for the space of more than four degrees, before it finally turned to the *north* (for he allowed those deep indentings between *Syene* and *Meroe*): and as he evidently supposed this part of its course to point to the north; it must be supposed, that had he known the contrary, he would have placed the lake, and eastern source of the Nile, in 4° north, instead of placing them at the equator.

line, and this distance, equal to 1200 miles,* be laid off in the direction of the general course of the Nile; it will reach to the parallel of three or four degrees north, which yet leaves a vast extent of course for a river of no greater bulk than the Nile; for this river, great as it is represented, yet when compared with some of the capital rivers of Asia, sinks very much, in the estimation of its grandeur and bulk.† Ptolemy, a native of Africa, and a resident at Alexandria; who had probably the best opportunities of knowing the general state of the geography of that continent; and who, moreover, wrote posterior to the inquiries made by the Romans concerning it,‡ had no idea that the sources of the Nile, were in the *west.* Not that he was ignorant of the *western* rivers of Africa, as well the inland ones, as those which communicate with the Atlantic; yet none of these waters are described to communicate with the Nile, in his geography. And when there is found, on a comparison of that part of his geography of Africa, between the Red sea and the greater Syrtis, a great deal of resemblance to the modern maps; we must surely regard him as a person not ill informed: not to mention the general truth of his delineation of the courses of the Senegal and Gambia rivers, which he conducts into the Atlantic, on different sides of Cape Verd; whilst the Niger, which, in his geography, answers to the Joliba, or river of Tombuctoo, is described to terminate as it begins, in an inland lake.§

It has appeared, that Herodotus expresses in the strongest terms,

* If these four months were taken on the footing of the three months journey from *Sardis* to *Susa*, they would produce about 1250 G. miles, although these appear to be no more than the marches of an army.

† Let the reader compare the descriptions of the Nile, in most of the books of travels; and more particularly in the intercepted French Correspondence; with that of the Ganges, in the Memoir of the Map of Hindoostan.

‡ Both Augustus and Nero had sent persons to explore the sources, or to inquire concerning them. Plin. vi. 29.

§ The reader is referred to the Proceedings of the African Association; and to the Appendix to the Travels of Mr. Park, for an account of the Niger.

his belief that the Nile rises in the *west;* but, like all other geographers who do not put their materials to the test, by a geometrical construction, he (if he does not, in effect, contradict himself, yet) renders his own account improbable, by his reasonings; and by his different statements. For, he supposes in one place, Euterpe, 31, 32, 33, that the Nile rises in the *west;* and that beyond the greater Syrtis, and the country of the Nasamones; whilst in other places he pointedly derives it from the *south*. For example, he says that the upper part of its course, situated at four months journey (equal to 1200 G. miles) from Egypt, is occupied by a nation who extend to the *southern ocean:* for the *Macrobian* Ethiopians who are here meant, can be no other than those amongst whom the *Automali* settled: Euterpe, 30, 31; and who must be the *Abyssinians* of modern times; since *Meroe* lay midway between them and *Upper Egypt.* Euterpe, 29, 30.

Again, he gives another proof of his belief that the Nile came from a place far to the south; for, in Euterpe, 24, 25, he thought its waters were absorbed by the presence of the sun, when in the *south.* It matters not how absurd the argument, that is meant to be supported, may be: it is the sentiment manifested in the course of it, that is to the present purpose.

Perhaps the difficulty may be solved, by supposing that Herodotus first conceived a just idea of the course of the Nile, on being told that it came from the *south;* but that afterwards he blended with it, the story of the *Nasamones,* and the *western* river, without weighing the circumstances properly. Had he not declared, Melpom. 50, that the Nile had *no* adjunct streams, we might have supposed that he meant to describe two distinct branches; referring them respectively to the river seen by the Nasamones, and to that of the Ethiopians in the *south.** Or he might have heard of the *White* River, and have taken that for the continuation of the one seen by the Nasamones.

* *Juba* led *Pliny* into a mistake, that the *Nile* sprang from the *west,* and even from *Mauretania;* and that it lost itself *under ground,* and afterwards rose up again.

As to the place of the remote sources of the Nile, it seems to have been destined to remain long a secret. That it has remained unknown so long, is probably occasioned by its being situated within the deep recesses of a tract (either *desert*, or *mountainous*, or *both*) which no *strangers* have had occasion to visit; nor ever will, until it may become *their special business* so to do. Whensoever the traversing of this tract, shall turn to as much advantage as the crossing of *other* deserts, or mountains, then will the true source of the Nile be found; and not before. For it may be conceived, that it is situated in a country that lies far out of the track of any caravan that visits the marts frequented by Europeans.

That source in Abyssinia, called by Mr. Bruce and by some others before him, the head of the Nile, appears to be, in reality, nothing more than the *eastern*, and *least remote;* as well as the *least* in point of bulk; of the two principal branches of the Nile, which unite below Sennar.* Concerning this fact, we shall adduce some evidence, which although presumptive only, cannot be disproved by any positive evidence; since no such exists: and it is no inconsiderable point in it, that Mr. Bruce himself, although undesignedly, has furnished a principal part. We begin with M. *Maillet*.

This gentleman collected his information from travellers; and there is no reason to suspect a design to mislead, having himself no *system* to support. Nor does he pretend to have any correct ideas respecting the geography of the upper part of the Nile, but

(lib. v. c 9.) By this mode of reasoning, any river that is lost in the sand, may undergo a *transmigration*, and appears again in the *shape* of another river, two or three thousand miles distant!

* The reader will not suppose that we entertain a shadow of doubt, respecting the fact of Mr. Bruce's having visited the eastern sources of the Nile. We only mean to deny that these are the proper heads of the Nile; because it may be believed, that there are other sources, more remote. His *opinions* only, not his *facts*, are controverted. But the question respecting the place of the source of the Nile, rests precisely as it did, before Mr. Bruce wrote.

relates merely what he had heard, without comparing the evidence. Nay, he even supposed the Nile to rise in Abyssinia; for by the lake *Gambea*, he doubtless intended *Dambea*, the *Tzana* of Bruce and others; but then he appears to confound it with the lake of the western branch. The chief point in his description, is, that at two or three journies below Sennar (it should rather be seven or eight) the Nile, or Abyssinian branch, receives a great river, named *Bahr Abiad*, (or the White river,) which he says is *at least as considerable as the Nile*. He says moreover, that it runs nearly parallel to the Nile, at the distance of 12, 15, and 20 journies from it. He does not, however, pretend to fix the source of the White river: he only remarks that it is easy to perceive that "the source of the Nile is not *unique;* and that its origin is not beyond the equator." (Desc. Egypt, pages 40 and 41.)

Mr. Bruce's words are the following. "The river *Abiad*, which is *larger* than the *Nile*, joins it here, &c.—Still the Nile preserves the name of the *Blue* river*—The *Abiad* is a deep river: it runs dead, and with little inclination, and *preserves its stream always undiminished*, because rising in *latitudes* where there are *continual rains*, it therefore suffers not the decrease the Nile does, by the six months dry weather;" (vol. iv. 516.) Thus Mr. Bruce goes beyond M. Maillet, by allowing the White river to be of *greater bulk* than the Nile: but what is more, he admits that it always continues in the same state; whilst the Nile suffers a dimunition half the year. He says moreover, that its bed has little descent, whence it may be concluded that it runs through its own alluvions in that part; which particular implies a considerable length of course. But Mr. Bruce

* The *White* river is so named from the muddy colour of its waters, whilst the *Abyssinian* branch is named the *Blue* river; probably from its comparative clearness. Some have supposed that the word *Neel* or *Nile* is meant to express the *blue* colour of its waters, but it rather appears to be an appellative; there being at least three large rivers in Africa of this name; as the Nile of Egypt, of the Negroes, and of Makadsh.

accounts for its bulk, and equal state, from the *continual rains* that fall in the countries contiguous to *its* source; which is saying in other words, that it springs from a different region from that which gives rise to the Abyssinian branch; whence by his account, the source of the *White* river should be very remote from that of the *Blue* river, in Abyssinia. But what says his Map? There, the limits of the *periodical* rainy seasons lie between 16 degrees of latitude; and those of the *perpetual* rains, between 4 degrees; on each side of the equator. There also, the source of the White river is placed in 8° north, and that of the Blue river in 11° only, with a difference of meridians of no more than $2\frac{1}{4}°$: and one of the springs of the latter is even near the 8th degree. Do *these differences* then constitue *different regions?* We may add, that the White river is drawn on his Map, much *smaller* than the eastern branch; which differs, as we have seen, totally from the description!*

The fact we should conceive clearly to be, that the White river has a much more distant source than the other. Some light is thrown on this particular, by Maillet's saying that the White river runs nearly *parallel* to, and at the distance of 12, 15, and 20 journies from the Nile; which can only be true of two rivers that spring at a great distance from each other. We are of opinion, therefore, that Mr. Bruce, who saw the White river, has admitted its superior bulk, and state of fulness, at all seasons; properties which the other branch does not possess: (as to its being in the same state, all the year, that we cannot suppose of any tropical river;) and hence, as he appears not to have made out his system of a constant rainy season, to supply the river in question, the reader will probably be inclined with us, to suppose, that a stream, at all times confessedly larger than another, has, in all probability, a more remote source.

* It is certain that Ludolphus describes a river by the name of *Maleg* or *Meleg*, which has a course perfectly similar to the *White* river of Bruce. But M. D'Anville regards it as one of the branches of the *Abyssinian* river.

We come next to Mr. Ledyard. This observant traveller furnishes notices, which induce a strong belief that the remote source of the Nile is situated very far to the south-west of Abyssinia.

During Mr. Ledyard's residence at Cairo, in 1788, he repeatedly visited the market-place, where the slaves from the interior part of Africa, were exposed to sale.* He saw a considerable body of them, which came from *Darfoor* (as he writes it), a country, says he, well known on account of the *slave* trade, as well as that in *gum* and *elephants' teeth*; and, it appears (page 54,) that there is a caravan, specifically from Darfoor; that is, distinct from the Sennar caravan. By his manner of speaking, these people were, in appearance *uncouth*, even amongst *Africans:* but he adds, that "they appeared a harmless wild people." He represents Darfoor as a very distant country, even in respect of Sennar; for he says that the slaves came from the interior parts of Africa. And he was told by one of them that he came from the west of Sennar 55 days' journey; or four or five hundred miles: and a Negro chief, *implied* to be of the party, said that "*the* NILE *had its source in his country.*" Mr. Ledyard's description of these people is particular. They had the *true Guinea face;* and their curly hair was *plaited* in *tassels;* and *plaistered* with *clay and paint.*

Although we cannot fix the precise position of the great body of this country, yet we are in some degree enabled to approximate it, by means of some notices in Mr. Bruce's Map; and which will turn out equally in favour of our argument.

Mr. Bruce places *Kordofan*, a frontier province of *Dar-Four*, said to be conquered by the king of Sennar; to the west of, and adjacent to, the country of Sennar; whose capital lies in $13\frac{1}{2}$ degrees north latitude. Hence it must be supposed that the country of Darfoor extends from thence to the westward: and as Mr. Browne has obligingly informed the Author that the capital of Darfoor, visited by him, lies about the parallel of 15°, it may be concluded that the

* African Association, chap. ii. page 50, *et seq.*

country itself extends some degrees in every direction around it; and consequently to the south, amongst the rest.

Other notices respecting the direction of the caravan routes to Darfoor and Soudan, occur in the Map of Mr. Bruce's travels; and which assist in giving some idea of the position of Darfoor. He states, that the caravan from Darfoor to Mecca, passes the Nile at Dongola, (in lat. $19\frac{1}{2}^{\circ}$) and thence to a port on the Red sea, where it crosses to Judda. This route appears to be a branch of the one from Soudan* to Cairo, described also on the same Map; by which we must conclude, that it is the track of the caravan of Darfoor, spoken of by Ledyard. This track passes in a NNE direction from the parallel of 15°, and about the meridian of Seewah; and falls into the road from Sennar to Cairo, at a point, short of the the Greater *Oasis*, or *El Wah*.

From these notices, collectively, it may be inferred, that the country of Darfoor lies between the meridians of Cairo and Seewah, generally; but its extent southward, we can have no idea of: nor is it a clear point, that the Negro chief seen by Ledyard, was of Darfoor, although the slave was. Mr. Browne says, that Darfoor is *not* a *country of rivers*, so that the *White* river must pass to the south of it, of course; and may be supposed to spring from the great chain of mountains; the continuation of those, which, according to Mr. Bruce, separate the heads of the northern and southern waters, in the parallel of 8° north, in *Abyssinia*; and which extend westward to *Manding*.

Combining the distance reported by M. Maillet, between the eastern and western branches; that is, 20 journies; with the above reported distance, of four or five hundred miles from Sennar; the remote source of the Nile should be looked for, very far to the SW

* The Moors and Arabs call NIGRITIA by the general name of SOUDAN. Abulfeda includes all the known part of Africa, south of the Great Desert and Egypt, in *Belad Soudan*, or the country of Soudan. With him, Soudan is the southern quarter of the globe.

of the latter place: but it is evident, that nothing critical can be determined in the present state of our knowledge, save that the distant source of this celebrated river is certainly not in Abyssinia, but in some country to the westward of it. To us it appears probable that it may be as far to the south as the parallel of 6°; which is nearly that assigned it by M. D'Anville; but less remote than Herodotus, Ptolemy, or the Arabian geographers, supposed.

Since then it appears that the Nile is formed of *two distinct* branches, or heads, of which, the White river is by far the most *remote*, as well as the *largest stream;* the Abyssinian branch, or *Blue* river, cannot be the *true* head of the Nile, according either to reason, or to common acceptation; as by the *head*, or *source* of a river, nothing else can be understood but the most distant spring, where there is a palpable difference in the length of the branches. A river may have many branches, and each of those will have its proper head: but the river itself, which is formed of those collective waters, must necessarily have for *its* head, that spring which is the most distant of all. The *Kennet* and *Lea*, for instance, are branches of the Thames; but the heads of those streams, near Marlborough and Dunstable, are neither of them the head of the *Thames.* Where the branches are nearly of equal length, it may bear a dispute *which* of them forms the proper head of the river; but this appears to be out of all question here; as PTOLEMY, EDRISI, and ABULFEDA, will be found to agree with the authorities we have adduced, in the main point of placing the head of the Nile, in a remote parallel, southward, and very far to the SW of Abyssinia; although the three first have doubtless exaggerated, very greatly, the quantity of the distance.

PTOLEMY, who perhaps knew more than any other person amongst either the ancients, or the moderns, (of those whose reports have reached us,*) knew the eastern, or Abyssinian branch, which

* The interior of Africa was so little known in the times of Eratosthenes and Strabo, that their authority concerning the sources of the Nile, is of little value.

he describes to flow from the lake *Coloe*, (answering to the *Tzana* of Bruce) under the name of *Astapus*; as well as the *Tacazze* of Bruce (the lesser of the two eastern heads,) by the name of *Astaboras*.* But at the same time he describes a more western branch, as the continuation of the great river of Egypt. So that the best informed of the ancient geographers, on this point, will be found to agree with the modern Oriental geographers, and with the reports of modern travellers: although it appears that none of them had any knowledge concerning the precise situation of the fountain itself; having taken it from the general information of others. Now, to quote the sentiments of M. D'Anville, "in a case where we are all ignorant, we ought not to reject entirely the reports of Ptolemy, and the Oriental geographers, until we can obtain some knowledge of the subject, ourselves."

Since the copies of EDRISI and ABULFEDA are not common, we shall extract from them, their ideas on the present subject.

EDRISI, who is the first of the two authors, in point of chronology, speaks of *two* rivers of the name of NILE; that of EGYPT, which flows to the NE: and that of the NEGROES, or of NIGRITIA, which flows from *east* to *west*: and both of these he derives from the same fountains. (See page 15, *et seq.*)

"These two parts of the Nile (says he) spring from the mountains of the *moon*, which are situated 16° *beyond* the *equator*. From these mountains, the Nile issues in 10 streams, five of which flow

They both appear to describe the Abyssinian branches as the only heads of the Nile, known to them; and to which they give the same names as Ptolemy does; *Astapus*, and *Astaboras*.

According to M. Gosselin's projection of their geographical systems, they placed the head of the Nile in about 8° north, which is not very different from M. D'Anville's position of the eastern source.

* Mr. Bruce (Vol. iii. 648.) appears to say, that *Atbara* is a modern name of the *Tacazze*, or ancient *Astaboras*. Can *Astapus* be a corruption of *Azerak*, or *Azrak?*

The *Coloe* of Ptolemy, seems intended for the *Galla* of D'Anville and Bruce. Galla is the southern division of Abyssinia.

together into one great lake, and the remainder into another such lake. From each of these lakes flow three rivers, the whole of which by their conflux, form a very large lake, near which is the city of *Tumi*, which is populous.—The lake is situated under the equator.—A mountain shuts up the greater part of the north side of this lake, and separates the courses of the two rivers that flow from it, the Nile of the *Negroes* passing by it to the NW, and thence westward, through the territories of the *Nigritæ*, the greater part of which lie adjacent to it: and the *Nile* (of *Egypt*) passing on the east side of the mountain, flows to the *northward*, watering in its course, the countries of *Nubia* and *Egypt*."

He remarks also, that the distance between the two smaller lakes is six journies; (say 114 G. miles;) and between the sources of the Nile, and the lake under the equator, 10 journies, or about three degrees of latitude, only; which, if true, contradicts the former statement, but may yet be the most probable of the two accounts.

ABULFEDA says, from Ibn Sina (*Prolegomena*, article *rivers*) that "it springs from those deserts which extends southward beyond the equator; wherefore it is difficult for us to investigate its sources; of which, as of the whole river, we are indebted to the *Greeks* for all our knowledge. They relate that Ptolemy informs them, that they flow from the mountains *Al Komri*,* in *ten* distinct streams, each of which is distant from the other, the space of a *degree*: so that the most western being in lon. 48°, and the second in 49°, the eastern one of all, must be in 57°. (rather 58°). That these ten streams run into two lakes; five into each. (He then refers back, to his descriptions of these lakes, where he has placed them both in lat. 7° south: and the most westerly of the two, in 50° lon.) The longitude of the eastern lake is 57°. From each of these lakes spring four rivers, or eight in all: *two of which are lost in other rivers*, but the other six run northward, and form a *round* lake at the equator, which lake is named KAWAR, and has also been men-

* Meaning, the *mountains* of the *moon*.

tioned above.* Its longitude is $53\frac{1}{2}°$, and it lies under the equator, (*though other people* speak differently.) The Nile emerging from this lake, and being named the NILE of EGYPT from its running through that country, waters the countries of Nigritæ in the following order: first it visits *Zagawan*;† then *Nubia*, and its capital *Donkala*, situated in lat. 15° N. lon. 52° E."—He adds, that after many flexures, it descends to *Aswan*, (*Syene*) and thence passes on to *Misraim* (or Cairo), &c.

It may be perceived that neither of these authors had any positive information concerning it, and that Abulfeda, in particular, follows Ptolemy, in a great measure. It ought to be of some weight, that the opinion of Ptolemy, considered generally, should have stood so long uncontroverted.

It also appears that Edrisi places the source in 16° south, whilst

* There is a considerable variation between the statement *here*, and in the place alluded to. For not only the lake is there called *Cura*; (as it is also called in tab. xxvii.) but there is also described the efflux of a third river from it, namely, that called the *Nile* of *Makadsh*,‡ and which is said to run out from the *east* side, as the *Nile of Ganah* on the *west*, and that of *Egypt* on the north. However, it is *Ibn Said* who speaks here, but it is *Ibn Sina*, who furnished Abulfeda with the above description of the course of the Nile. This river is said, tab. xxvii. to swell at the same period with the *Egyptian* Nile; and that it flows into the sea of *India*. In effect, all the great rivers of Africa swell at the same season, because their sources are all in the same climate.

† It is called *Zagawah*, in Abulfeda, tab. xxvii. *Soudan*, and described to occupy a position correspondent to the NE part of *Nubia*.

Our Author also says, that "the *Nile*, that great and celebrated river, is unequalled by any other in nature." That it has the longest course of any river in the world, its waters the most pure, that stones do not become *green* in it, as in other rivers, and that its increase is occasioned by the rain that falls in the countries near its sources. But he is mistaken in saying that its waters *increase*, as the days *shorten*: since the contrary is a well known fact. Accuracy is not the praise of Oriental writers.

‡ The *Machidas* of the Maps. It is also named the river of *Zebee*.

Abulfeda only marks the parallel of the two first lakes, which he places in 7°. Both, however, agree in placing the third, or greater lake, at the equator: but there can be little doubt but that both are in an error, as well as Ptolemy, in respect of the parallel; though it would be losing time to enlarge upon it.

Both of them also, in effect, allow the Nile of the Negroes (Niger) to be derived from the same source as the Nile of Egypt: but Edrisi's statement is the most positive of the two. And again, Abulfeda quotes Ibn Said,* who says that *Ganah*, situated in the heart of Africa, is on the bank of a river of the name of *Nile*, which springs from the same place as the Nile of Egypt. He indeed calls it the *twin brother* of the Nilé; though if Edrisi was right, it would be rather the *offspring*, or a derivative from it. The same Ibn Said again speaks of the Nile,† at *Tocrur* in the country of the Negroes; but as Tocrur is situated on a continuation of the river of Tombuctoo, the Niger must be the river meant; that is, the Nile of the *Negroes*, and not that of *Egypt*. And as he also says that the Nile of *Ganah* (still meaning the Niger) fell into the ocean, in lat. 14°; by which it is evident that he took the Senegal river for it, his authority goes for nothing; since the late discoveries of Mr. Park prove that the river of Tombuctoo, (intended by the Niger) runs from *west* to *east*, agreeing with Herodotus. As the authorities both for this fact, and for the continuation of this river, to the country of *Wangara*, are already before the public; being detailed in the Proceedings of the African Association (1798), and in the Appendix to the Travels of Mr. Park, it will be needless to repeat them here.

Edrisi's account also, for the above reasons, goes for nothing, when he describes the derivation from the Egyptian Nile, at the lake *Kawar* to run to the west, through the greatest part of the territories of the *Nigritæ*. It is however, very possible that a stream from the *neighbourhood* of the lake Kawar, (although not from the lake

* Abulfeda, Tab. xxvii. *Soudan*. † Ibid.

itself), and perhaps, separated from it only by a ridge of mountains, may flow to the west; and that it may join the river of Tombuctoo, by the medium of a lake; possibly that of *Kauga:* (See Proceedings African Assoc. 1798, p. 146. and App. to Park's Travels, p. lxxix.); but neither does the great midland river of Africa run to the west; nor does it communicate with the Atlantic.

It is worth remarking, that Ptolemy describes a river springing from the SE, about the parallel of 10° N, amongst the *Nubi*, and flowing to the NW, into the river *Gir;* apparently meant for the river of Bornou. This may be the river meant by Edrisi.*

We shall conclude this part of our subject by remarking, that neither Edrisi nor Abulfeda take any notice of the *eastern* head of the Nile, which rises in Abyssinia. This would have been entirely in favour of that system, which places the principal source of the Nile there, had not both of these authors known, and treated of, the country of Abyssinia, in their respective works. At the same time, it may be observed, that the line of course of the great Abyssinian branch, and the position of the lake *Tzana*, in respect of it, are so totally different from the descriptions of the head of the Nile, by Ptolemy, Edrisi, and Abulfeda, that, in our idea, it is scarcely possible to confound them together.

Since Herodotus believed that the sources of the Nile were much more remote than four months journey from Upper Egypt; whether to the south, or south-westward; this bespeaks a belief of the extension of the continent of Africa, to the neighbourhood of, if not *to*, the equator itself. And as it may naturally be supposed that he does not limit the Continent literally to the place of the source, a farther

* It is certain that Abulfeda remarks (*Prolegomena*, lake *Cura*) that although Ibn Said and Edrisi have wrote that the Nile of *Ganah* issues from the lake Cura (or Kawar), yet that Ptolemy denies that any other river but the *Egyptian* Nile, issues from that lake: and that the Nile of Ganah (*i. e.* the Niger) flows from some other source.

extension must be reckoned on; and we may assume that Herodotus believed that Africa extended beyond the equator, southward. But even this extent does not come up to the idea which naturally arises, on the comparison made by him of the lengths of the different Continents of *Europe* and *Africa*: for the expression is, "Europe, in length, *much exceeds* the other two, but is of *far inferior* breadth:" Melp. 42: which may be understood to mean, that the *length* of *Africa* and *Asia* bear at least, some degree of proportion to that of *Europe*. The relative proportion certainly cannot be fixed, but it may be understood, as on other occasions, generally; as for instance, $\frac{1}{4}$ or $\frac{1}{5}$ would be thought a considerable proportion of excess.

The length of Europe, under its accustomed boundaries, Cape St. Vincent and the river Tanais, would reach a few degrees only, to the south of the equator; from the northern point of Africa near Carthage: but Herodotus, as we have seen, assumed a different limit for Europe, and included the *Issedones* in it; whence, the length of Europe, according to his system, would have reached from Carthage, to about the 20th degree of south latitude, in Africa. If therefore $\frac{3}{4}$ or $\frac{4}{5}$ of this extent, be assumed as a proportion, *Africa* will be extended to five or eight degrees south of the equator. Nor could a person, who believed that the circumnavigation of it, employed more than two years, well suppose a less extent.

It appears on the whole, as if the knowledge of Herodotus, respecting the detail of the interior parts of Africa extended only to the upper part of the course of the Nile, southward; and on the SW, to the Niger. And although he knew the fact, simply, that Africa was surrounded by the ocean, yet he seems to have known no particulars relating to the coasts, beyond the places to which the Carthaginians traded, on the west side; perhaps to the neighbourhood of Sierra Leona: nor on the east, beyond the Macrobian Ethiopians, who appear to have extended to the ocean, beyond the

outlet of the Arabian gulf. So that it seems as if the extent of the geographical knowledge in *detail*, possessed by Herodotus, corresponded pretty nearly with that of Ptolemy; bating the western rivers that fall into the Atlantic, and the coasts of Mozambique and Sofala: although they respectively formed very different conclusions, concerning the termination of the Continent, southward.

LOWER EGYPT, *ANCIENT and MODERN:*

Inscribed to

JOHN CHARLES VISCOUNT ALTHORP,

By his Lordships faithful & obed.t Servant,

J. Rennell.

o *in either Map, denotes an existing Town:*
•, ... *the contrary.*

ANCIENT

MODERN

Valley of SUEZ; *with the traces of the ancient Canal:* *See pages 174 & 486.*

BARS of RIVERS: *Referred to, from page 190.*

Geographic Miles
British Miles
Roman Miles
Schoenies of 30 Stades
Stades 750 to a Degree

Natron Lakes

Publish.d according to Act of Parliament by James Rennell Nov.r 25th 1799

J. Walker sculp.

SECTION XVII.

CONCERNING THE ISTHMUS OF SUEZ, AND THE ANCIENT CANALS THAT UNITED THE TWO SEAS.

The Ancients mistaken in the Breadth of the Isthmus *of* Suez, *which they reckoned much too wide—Source of the Error—Opinions of the ancient Geographers, severally—the Moderns generally in the same Error—the Question determined by the Difference of Latitude.—Construction of the Geography of the* Isthmus, *and of the Positions, on which the Line of the Canals, depend.—Arrangement of* Pelusium, Heroopolis, *and the Head of the Arabian Gulf, in Respect of the* Egyptian Babylon.—*Conjecture respecting the Site of* Heroopolis, *or* Heroum.—Salhia, *the* Sile *of the* Antonine Itinerary.—*Mount* Casius.—Pelusiac *Branch of the Nile, no longer exists, than as a periodical Stream; and in a different Line of Course.—* Bubastis, *at the Head of the Canal of* Necho, *placed.—General Idea of the Courses of the* ancient Canals, *across the Isthmus—all drawn from the Nile, and not from the Mediterranean Sea.—History of the different Canals, according to* Herodotus, Strabo, Diodorus, *and* Pliny.—*Doubts respecting the Person who first completed the Communication.——Herodotus to be credited, when he reports that* Necho *began, and* Darius *completed it.*—Ptolemy Philadelphus *probably* renewed, *and* improved *it.—Investigation of the particular Line of the* first Canal, *from the Pelusiac Branch, to the Red Sea—considerable Traces, remaining.—The Canal of* Trajan, *and of the* Caliphs, *no more than a Branch added to the former one.—Causes of the Retreat of the Sea, from the Head of the Arabian Gulf.—Rise of the Tide, in it.—Idea that the Red Sea was higher than the Mediterranean, perhaps founded.—Descent of the*

different Canals, compared.—Complete Failure of the Project of uniting, permanently, the two Seas.—The Floods of the Nile favourable to it.—Reported Dimensions of the Canals of Necho, Darius, and Ptolemy.

THE breadth of the Isthmus of Suez, was by no means correctly known to the ancients: on the contrary, they all supposed it to be much wider than it really is. The Arabian geographers fell into the same error; although it be a question that depends on the difference of latitude between the approximating parts of the two seas.

In Herodotus, the source of the error may be traced, in the supposition that mount *Casius*, which was situated on the shore of the Mediterranean sea, at about half a degree to the eastward of Pelusium, lay opposite to the head of the gulf of *Heroopolis* (or of Suez.) The same kind of error is observable in Ptolemy; in whose geography mount Casius and Heroopolis appear nearly under the same meridian, although there is nearly a degree of longitude, as well as of latitude, between them. Pliny, who was, however, ignorant of the distance, appears to have known that the narrowest part of the Isthmus lay between *Pelusium* and *Arsinoe;* which latter stood near the present Suez.

The distance between Casius and the head of the gulf, appears to be about 64 G. miles, at this time.* Some of the ancients allowed 83; and reckoned this space the breadth of the Isthmus: but it will be found to exceed the truth, by much more than half the actual breadth.

Herodotus allows (in Euterpe 158. and Melpom. 4.) 1000 stadia between the two seas, by the *shortest* passage.† This number of

* The Red sea is constantly retiring to the south: therefore the distance must alter.

† He says, (Euterpe, 158.) "From the northern to the southern, or, as it is generally called, the *Red* sea, the shortest passage is over mount *Casius*, which divides

stades, on our scale, is equal to about 83 G. miles; which is exactly the space allowed by Ptolemy, between the narrowest part of the land, between the two seas.

Pliny, lib. ii. c. 68, allows 115 MP.; perhaps meant for 920 stades: but he says, lib. v. c. 11. that Agrippa allowed 125 MP. (that is 1000 stadia) between Arsinoe, at the head of the Arabian gulf, and Pelusium.

Strabo allows 900 stadia (equal to 77 G. miles, on his scale), for the breadth of the Isthmus between Pelusium and Heroopolis: but he says that Posidonïus supposed it to be 1500. See pages 491 and 803. Heroopolis, however, lay considerably wide to the north and west, of Arsinoe. One is surprized that a great geographer, and one who had visited Egypt, should have obtained no better intelligence. In effect, the breadth of the Isthmus, between *Suez*, (near the ancient *Arsinoe*), and the sea coast of the bay of *Farama*, near the site of *Pelusium*, (between which places the breadth of the Isthmus must properly be reckoned) appears to be little more than 48 G. miles. The latitude of Suez is correctly known to be 30° 2′:* and M. D'Anville, who ought, from his local situation, to have known more concerning the subject, than most men, fixes the latitude of Farama at 39° 50′: consequently, the difference of latitude, which is equal to the breadth of the Isthmus (within a fraction of a mile, as Farama lies only five or six miles to the eastward of the meridian of Suez) is no more than 48 geographic miles; and therefore 56 miles of British standard, may be taken for the distance across.

Egypt from Syria; from whence to the Arabian gulf are a thousand stadia. The way by the canal, on account of the different circumflexions, is considerably longer."

Here, he seems to regard the whole water communication between the two seas, a great part of which was by the Nile itself, as THE CANAL. He also says in the same chapter, that "the length of the CANAL was equal to a four days' voyage:" but it appears to have been considerably more.

* Mr. Dalrymple took an observation there, in 1776; and Capt. White, in 1795.

M. Volney allows 18 or 19 French leagues; which, at a mean, may be reckoned 57 British miles.

M. D'Anville, probably on a supposition that the statement of Ptolemy was just, allowed 83 G. miles between Casius and Suez; and thus placed the latter in the parallel of 29° 45′, which is 17 min. too far to the south. Ptolemy allowed 29° 50′.

As it may be satisfactory to the reader, as well in respect of the Isthmus, as of the famous canals that intersected it, to have before him the authorities on which the positions, in and about the Isthmus, and between it and the Nile, are determined; they are here subjoined in detail.

The distance between Cairo and Suez forms the base of this construction. Cairo lies in lat. 30° 3′; Suez in 30° 2′; both by celestial observation: and by extending the line to the site of the *Egyptian* Babylon, an opportunity offers, of using the distances in Ptolemy, and in the Antonine Itinerary. Those in the Theodosian Tables are imperfect.

The distance between Cairo and Suez is taken at 32 hours caravan travelling; of which seven or more lie so wide of the direct line, as to reduce the direct distance to little more than 30 hours. And accordingly, 60,4 G. miles are allowed, on a proportion of two per hour.* The site of Babylon, taken for *Fostat*, is about three miles to the SW of Cairo; so that the whole length of the base will be 61,9; or 62 miles. Ptolemy allows 65; but it is well understood that his longitudes are always in excess.† He places *Heroum*, or

* The Lake of the Pilgrims lies at a bearing of E 30° N from Cairo, and Ajeroud at NW from Suez; whilst the general direction of the road is due east.

† The longitude of Suez, according to the observations of Capt. White, in 1795, is 32° 28′ 30″ east of Greenwich. The 60,4 G. miles of easting between Cairo and Suez, give 1° 9′ 45″ diff. lon. placing Cairo in 31° 18′ 45″: but in the Con. des Temps, it is given at 31° 29′. M. Niebuhr's Chart of the Delta allows 60½ G. miles of westing between Cairo and Alexandria; equal to 1° 10′ 30″ diff. lon.; consequently, Alexandria should be in 30° 8′ 15″. And the Con. des Temps has

Heroopolis 55 to the east of Babylon, $13\frac{1}{3}$ to the NW of the inmost recess of the Arabian gulf. If these distances be corrected, by the rule just given us, they ought to be respectively $52\frac{1}{2}$ and $12\frac{3}{4}$; and Heroopolis will also be found to occupy nearly this position, by the notices afforded by the Antonine Itinerary.*

That Itinerary has a route from the Egyptian Babylon to Pelusium: another from Babylon to Heroopolis; branching out from the former, at a point nearly midway between the two places, and extending onward to *Serapiu*; presumed to have been situated near the head of the gulf, at Arsinoe: and a third from Serapiu to Pelusium. From these lines of distance, together with the latitude of Pelusium, (as it is found in M. D'Anville) the breadth of the Isthmus, together with the intermediate positions, on which the lines of the canals depend, may be approximated.

The latitude of *Tinah*, the ancient Pelusium, being given at 30° 48′; and that of *Farama*,† at the mouth of that branch of the Nile, 30° 50′; consequently, the difference of latitude between Suez and Pelusium, is 46 min.: and between the approximating parts of the two seas, 48.

The Antonine Itinerary allows 112 MP. equal to 80 G. miles, in direct distance (when allowance is made for the inflexions of the road; as is to be understood in every instance where the Itinerary distances are applied, in the course of the present discussion) between Babylon and Pelusium.‡ If this distance be extended between

actually 27° 50′ 22″ east of Paris, or 30° 9′ 22″ from Greenwich; differing little more than one minute.

* This place is more commonly named *Heroum*, than *Heroopolis*, by the ancient geographers. Strabo universally names it so: so do Ptolemy and Pliny, generally. The Antonine Itinerary has it *Hero*. Josephus mentions it under the name of Heroopolis, (Antiq. lib. ii. c. 7.) and says it is the place where the patriarch Jacob, in his way down to Egypt, met his son Joseph. It is situated on the inland road from Egypt to Syria.

† See Abulfeda's Egypt, article *Farama*.

‡ See the Itin. pages 162 and 169.—Pelusium 16 Daphno, 18 Tacasarta, 24 Thou,

the parallels of 30° 0′ 30″, and 30° 48′ (those of Babylon and Pelusium, respectively), it will place the latter about two miles to the eastward of the meridian of Suez (or Arsinoe). M. D'Anville's construction has 13; and he also allows 86, in the place of our 80.

The same Itinerary has 60 MP. equal to 43 G. miles, direct, between Serapiu and Pelusium.* The position of the former is unknown; but, by circumstances, it ought to be near the head of the gulf of Suez; and to Arsinoe, of course; but this latter must have been more to the north than Suez, as the sea has retreated, and is constantly retreating, to the south: and has even left *Kolzoum*, which was a port in the time of the Caliphs, three quarters of a mile inland.† Therefore, Arsinoe may have been a full mile to the northward of Suez: and *Patumos*, the place where the canal of Darius entered the gulf, (Euterpe, 158.) still more to the north; or nearer to Pelusium. Arsinoe, then, may have stood at 45 miles only, from Pelusium, which is within two miles of the distance collected from the Itinerary, according to our usual practice of deducting $\frac{1}{9}$ part for inflexions of the road; although it is certain, that in the present case, the road has an uncommonly deep bend to the west, through *Salbia*, the *Sile* of the Itinerary. For, both Pliny, and the modern travellers, say, that the track in the direct line across, is covered with a deep shifting sand, on which no traces of footsteps remain; wherefore, in order to keep on the solid ground, it is necessary to make a great circuit to the west.‡ (See the Map at page 449.)

The circumstances that lead to a supposition that Serapiu must

26 Scenas Veteranorum, 14 Heliu, 12 Babylonia: total 110. But the distance between Scen. Vet. and Heliu is given a second time at 18, which gives a total of 114. The mean is 112.

N. B. The 112 MP. would give near 90, if taken as direct distance.

* Page 170. — Serapiu 8 Thaubasio, 28 Sile, 12 Magdolo, 12 Pelusio: total 60 MP.

† This will be spoken of, more at large, in the sequel.

‡ Pliny, lib. vi. 29. Volney, who visited Suez, says much the same. Vol. i. lett. 14.

have been near the head of the Arabian gulf, are the following: It is doubtless implied, in the first instance, that a place to which the *only* road from the capital of Egypt, *eastward;* and from Pelusium, *southward*, led, must have been of some importance: and it being situated within the Desert, no other kind of importance can well be ascribed to it, save what arose from its connection with the port of the Red sea.

In the next place, the distance of Serapiu from Heroopolis, in the Antonine Itinerary, is the same with that of the head of the Arabian gulf, in Ptolemy: that is, about 13 G. miles in the latter; 18 MP. answering, within a fraction, to the same distance, in the Itinerary.

And lastly, the Itinerary is silent respecting Arsinoe; or any other place, at the head of the gulf. Several places of the name of *Serapiu*, appear in the Theodosian Tables, but none near Arsinoe, which is itself noted in the Tables. They were evidently temples of SERAPIS: they are distinguished by the same marks, as the temples of Diana, of Herculis, and of Esculapius, in other parts of the Tables; and as those of ISIS, within the very same country. In our idea, therefore, no other can be supposed, than that the Serapiu in question, was a temple of Serapis, near the port of Arsinoe.

With respect to the trifling difference of two or three miles in the distance, that is not worth regarding, in a discussion of this kind.

On the road from Serapiu to Pelusium, *Thaubasio*, at 8 MP. equal to about $6\frac{1}{2}$ G. miles, is the first place that occurs: and this being very little less than the distance of *Ajeroud* from the head of the gulf, *at present*, may perhaps have been the same station, under another name: especially as the road must have led in that direction towards Salhia; Ajeroud being to the NW of Suez.* The vestiges of an ancient canal are moreover stated to be visible in this

* This is almost universally allowed. The reports of the distance vary from $3\frac{1}{4}$ to 4 hours. M. Niebuhr gives the bearing at NW nearly: Pocock more northerly. We adhere to M. Niebuhr.

track. Whilst the waters of the Nile continued to run, although they might only fill, periodically, the reservoirs adjacent to the canal, the road would certainly have been contrived to pass by them.

By a reference to the Itinerary, (or see above page 453), *Thou* will be found at 54 MP. from Babylon, or $38\frac{1}{2}$ G. miles: 58 MP. or $41\frac{1}{2}$ G. miles, short of Pelusium. At Thou, the road turned off to the right, or SE 24 MP. or $17\frac{1}{4}$ G. miles to *Hero* (Heroopolis); which sum, added to the 13 of Ptolemy, gives an aggregate of $30\frac{1}{4}$ for the distance of Thou from the head of the gulf (at or near the present Suez); or if the 18 MP. of the Itinerary, to Serapiu, be taken, the result will be much the same. Thou, will then lie about seven miles to the right, or eastward of a line drawn from Babylon to Pelusium; and which is a probable position for it: the modern road, which passes through Salhia, taking much the same direction. And here it is proper to repeat, that the position of Heroopolis, deduced from the authority of the Antonine Itinerary, accords generally with the result arising from the distance in Ptolemy. This result was $52\frac{1}{2}$ G. miles; and by the Itinerary, it is 51.

Dr. Pococke (Vol. i. p. 131, 132.) gives a position which he names *Haraminteleh*, just where we should look for *Heroum*, or Heroopolis. The Doctor places it in a valley, near the edge of the great plain that opens towards Ajeroud; and at $3\frac{1}{2}$ hours short of that place; whence it may be reckoned about seven G. miles to the WNW of it; and as Ajeroud is also about $3\frac{1}{2}$ hours or seven miles short of Suez, the distance agrees very nearly with that in Ptolemy; and also with the Itinerary, if it be admitted that Serapiu stood near Arsinoe.*

* The time is thus made out: the first station from Cairo, towards Ajeroud and Suez, was at 13 hours from the former. The second station was Ajeroud, after 16 hours, without stopping. Eleven of these brought Dr. Pococke to *Tearosaid*, seated between very low hills; and one hour and half more, to Haraminteleh. Of course $3\frac{1}{2}$ hours remain out of the 16, for the distance of Haraminteleh from Ajeroud.

Dr. Pococke speaks thus of Haraminteleh; p. 131. "There seem to be ruins of

Both Pococke and Shaw took Ajeroud itself for Heroopolis; although we can perceive no ground for such a supposition: for Strabo, who says that it was near Arsinoe, could only speak generally; since its situation appears so clear in Ptolemy. M. D'Anville has gone into the other extreme, and placed it to the west of the *Bitter* lake.*

Salhia, taken for the *Sile* of the Itinerary, is a well known station; as well from its being situated on the last firm ground in Egypt, towards Syria, and Arabia, as from its having been in the present times, one of the *out-posts* of Buonaparte's army. Salhia is given at 24 MP. or $17\frac{1}{4}$ G. miles, short of Pelusium, from Serapiu: and it lies very little wide of the road from Babylon (or say Cairo,) to Pelusium. It should therefore be 88 MP. or 63 G. miles from Babylon; 60 from Cairo. Travellers allow 27 to 28 hours of the caravan, between Cairo and Salhia; which may be taken at 56 miles; whence the distance falls short only 4 miles: and as Thevenot reckoned 10 hours, or 20 miles, between Salhia and a deep inlet of the sea, which appears to be a continuation of the lake *Menzala*, opposite *Tinah*, or Pelusium; we have here the deficiency supplied pretty satisfactorily. Perhaps, a part of the deficiency arising on the road from Serapiu to Pelusium, may be accounted for, in the same manner.

We shall not pursue the discussion of the road to Syria, any farther in this place, than just to mention, that 16 hours beyond the inlet, brought Thevenot to *Catieh*, the ancient *Casium*, situated under mount

a wall built across (the narrow valley) to defend the pass. After I left the place, I thought possibly the canal might pass this way, and that this wall might be the remains of the buildings of one of the flood gates; we after came into the open plain, and saw Ajeroud," &c.

The distance allowed by Ptolemy, between the *head* of the Gulf, and Heroopolis, was $13\frac{1}{3}$; here 14 is the result. It must be recollected that the sea has retired to the southward since the time of Ptolemy.

* Concerning this lake much more will be said, presently.

Casius; and which is therefore 26 hours beyond Salhia. The Itinerary, p. 152, has only 40 MP. in two equal stations, from *Cassio* to *Pentaschoenon*, and thence to *Pelusio:* and these can only be taken at $28\frac{1}{2}$ or 29 G. miles; although the *time* would give considerably more.* The difference may well arise from the sandy nature of the road, which requires a longer time, and more exertion, to travel it; as appears on the whole of the road across this desert; which is composed of loose sand.† Thus, mount Casius, it appears, should not be quite 29 G. miles to the eastward of Pelusium. And this being the case, the space between mount Casius and Suez ought not to be taken higher than 64 G. miles, if any dependence can be placed on the latitude of the mount, as it appears in M. D'Anville, at 30° 58′.

Thus, there appears to be a general agreement between the Roman Itinerary, and the reports of modern travellers, in the line between Babylon (Cairo,) and mount Casius. But, on the road between Serapiu and Pelusium, we have no modern Itinerary to compare with the ancient; and it is certain that, although the distance given by the ancients, agrees generally in the aggregate, with the difference of latitude, yet that the *detail* does not agree, if Salhia is to be taken for the *Sile* of the Itinerary; as in our idea, it ought to be.

* Abulfeda reckons one journey, or 19 G. miles, between *Farama* and *Catieh*. The former being placed at 3 to 4 miles to the north eastward of Pelusium, there should remain $24\frac{1}{2}$ at least for the space between Farama and Catieh.

† Thevenot reckons 53 hours of the caravan between *Catieh* and *Gaza*. By the diff. lon. between these places, the distance between them in a direct line, should be 85 G. miles; or, taking the bend of the coast, the straightest line on which a road can be made between them, is 88. This allows only 1,7 G. miles per hour, whilst 2 is the common caravan rate: besides, the last 7 hours are over solid ground. The Antonine Itinerary has 96 MP. only, or less than the distance on a right line; so that some omission has happened. An observation for the longitude at Gaza, or some other place in its neighbourhood, would remove the doubt that now exists concerning the distances.

The positions of *Phaccusa* and *Bubastis*,* two towns, situated according to Ptolemy, on, or near, the Pelusiac branch of the Nile, are of considerable importance, from their connexion with the canal, drawn from the Nile to the Red sea.

From the report of Herodotus, Euterpe, 17, it appears that the Pelusiac branch struck to the eastward, immediately from the *head* of the Delta of the Nile; at which place the Canopic inclined to the west, and the Sebennitic to the north. More will be said concerning these different branches, in the sequel; at present it will be necessary to speak of the Pelusiac branch, alone.

Herodotus is by no means critical in respect of this description; and therefore it can only be concluded generally, that there were *three principal* branches of the Nile, which opened to the sea, at that time (as there are *two* at present;) one or more of which, like the present ones, were subdivided near the sea, so as to form 7 openings altogether. The three branches are described to be nearly of equal bulk and depth; and, it may be inferred that the Pelusiac one, although perhaps not equal to the others, must have been of considerable bulk, and preserved the form of a river during the whole year; otherwise, it could neither have been regarded as a bulwark to the kingdom, on the side towards Syria, nor could it have furnished a supply of water, for a large canal. At present, it no longer exists as a river, than during the season of swelling of the Nile.

That this branch had its origin from the head of the Delta, in ancient times, and not, as at present, at a point more than 16 miles below it, appears certain from the ancient descriptions: but as the discussion belongs more properly to the subject of the Delta itself, we shall request the reader to take the fact for granted here, since it does not effect the question concerning the place of outlet of the canal, from the Pelusiac river; that part of it appearing to have preserved its ancient place. It is the upper part only, which has

* Called indifferently Bubastis, and Bubastus.

either gradually removed downwards, or the portion of water that flows to the eastward, has fallen into the bed of an ancient canal, that led from the Sebennitic branch into the Pelusiac: of which kind of canals, many are known to have existed.

This river is known by the name of *Terraet Miies*, and strikes off from the Damietta branch (or ancient Sebennitic) a little below *Trieb* or *Atrib*, the ancient *Athribis*. The line of direction between the outlet of this branch and Pelusium is E b. N or ENE; and such is the direction of the river itself, in the chart of M. Niebuhr.* The town of *Bastus* taken for *Bubastis*, lies also in this direction, which adds strength to the supposition, that the lower part of the Terraet Mues is in the line of the ancient Pelusiac river; since Bubastis itself was enclosed between two branches of that river. (Euterpe, 138.) It is well known that the outlets of the branches of rivers, in alluvial soils, have a tendency to move *downwards*, both from the elevation of the soil, and other circumstances: so that the outlet of the river in question, was doubtless much higher up, in ancient times, than in the present: and the same change has taken place at the head of the Delta itself, as will be proved in the sequel.

Ptolemy places *Phaccusa* at the side of the Pelusiac branch, at $22\frac{1}{2}$ G. miles; and Bubastis at $32\frac{1}{2}$; above Pelusium. The Theodosian tables allow 36 MP. for Phaccusa, equal to 26 geographic; and if Bubastis be only 10 miles above it, as Ptolemy allows, this latter should be 36 only, from Pelusium towards Atrib. D'Anville has *Bastus*, probably the same place in modern geography, at $20\frac{1}{3}$ to the east, somewhat north from Atrib; which appears in the chart of M. Niebuhr, in lat. 30° 28′ 30″, and at one mile to the east of the meridian of Cairo. But, as the space between Pelusium and Atrib,

* Sanuto has a branch called the river of *Tenes*, meant for *Tineh*, or *Tina*, the modern name of Pelusium; which appears to answer to the Terraet Mues, and to the ancient Pelusiac branch, in the lower part of its course. It indeed terminates in the lake of Menzala in the quarter of Pelusium; but this place is known to have been surrounded by lakes and marshes.

appears to be 65 miles, there is of course a deficiency of nearly 9 miles: and Bastus should rather be 45, than 36, above Pelusium. Phaccusa, by the same rule will be more than 10 below Bubastis.

Sanuto has *Al Besia* in the place of Bastus, at 17 miles to the NW of *Belbesa;* meaning Bilbeys, a well known station on the road from Cairo to Salhia. Belbesa, in the same geography, is 30 to the NW of Suez; that is, Al Besia is 47 from Suez; agreeing generally with the foregoing construction. Belbesa is moreover, 30 short of Salhia, in the same Author: and by the report of travellers, it is from $13\frac{1}{2}$ to 15 hours travelling: so that the whole may be deemed consistent.*

Herodotus says, that the canal from the Nile to the Red sea, led out of the Pelusiac branch, *a little above Bubastis:* Strabo says, at *Phaccusa*. Pliny, who is silent respecting the *place*, says that the *whole* length of the canal, from the Nile to the Arabian Gulf, was 62 MP. If these are to be taken for the road distance across the country, they produce 44 to 45 G. miles, in direct distance: and the space, on the construction is 48 miles, according to the *data* adopted for the position of Bubastis. This may be reckoned a near coincidence, taken in a general point of view.

We feel no hesitation in preferring the authority of Herodotus, in this matter; and for this reason in particular, that Phaccusa appears to be situated too low down the Pelusiac branch, that is, too near the Mediterranean sea to admit of a current of water, from the Nile to the Red sea: even admitting that the two seas might be on the same level; which is doubted. But Bubastis is actually at equal distances from them, and the canal is said to have been drawn from a point, a little *above* Bubastis: so that, on a supposition that the canal was formed on a straighter line, than the natural course of

* We may doubtless recognize in the *Abbasa* of Abulfeda (Tab. Egypt.), a recent foundation, situated at about a days journey to the north of Bilbeys, the Al Besia of Sanuto, and the Bubastis of Herodotus.

The *Pibeseth* of Ezekiel, ch. xxx. 17, is taken for the *Bubastis* of the Greeks.

the Pelusiac branch (and which can hardly be doubted), a current, although perhaps not of the requisite strength to keep the canal open, would certainly have ran into the Red sea, even admitting that it might have been a few feet higher than the Mediterranean. It is proper to add, that there appears in Sanuto, a water communication between the present Damietta branch and Bilbeys; passing by Besia (Bubastis), and which is likely to have been the course of the upper part of the canal of Necho.* The canal attributed to Trajan, and described in Ptolemy as the *river of Trajan;* and which led from *Babylon* to *Heroum*, most probably joined that of Necho at Bilbeys, the *Pharbæthus* of D'Anville.†

Thus we have endeavoured to arrange the positions, on which the breadth of the Isthmus of Suez, and the extremities of the canal depend. As it is obvious, that this arrangement could only be made by a combination of the authorities, generally; and as these frequently differ, in a small degree from each other, the distances and positions on the map, cannot be expected to accord with any particular authority. But a description of the process would be tedious, and of no particular use. The positions which determine the *lines* of the canals, will be spoken of, in the succeeding part of the Section.

Having disposed of the question respecting the Isthmus itself, we come next to the canals that were drawn across it, in order to unite by an inland navigation, the two seas that washed the opposite sides of it.

From the relative positions of the head of the Red sea, and Pelusium, at which place the eastern branch of the Nile discharged

* It will appear presently, that there exists in the present times, during the swelling of the Nile, a water communication between the lake *Menzala*, and the *Bitter* lake, near Heroopolis: the very line of Necho's canal.

† Abulfeda describes a river that passes by Bilbeys, during the swelling of the Nile, and which appears to be a continuation of the canal of *Kalinb*, named *Abul Menagee*. (Tab. Egypt. Article *Belbais.*)

itself, in ancient times, it appears clearly, that a canal drawn across the narrowest part of the Isthmus, must have intersected some part of the course of the Pelusiac branch; or, at least, must have fallen in at the embouchure of it. (See again, the map at page 449.) Consequently, regard being had to the general geography, and particularly to the course of the eastern branch of the Nile, it will be understood that some part of that branch must be nearer to the Red sea, than either Pelusium itself, or any part of the coast near it; had it been advisable to cut it by the shortest line.

But, independent of any other consideration, a current of water from the Nile, towards, and into the Red sea, was absolutely necessary, in order to effect the measure of keeping open the mouth of the canal, in that sea; and was no less useful, in respect of a supply of fresh water, throughout a nagivation that not only led through, but even terminated in, an arid desert. But it was believed that the Red sea lay on a much higher level than the Mediterranean, or even than Lower Egypt; and which, if true, rendered it a measure of necessity, to draw the canal from a point in the course of the Nile, high enough to insure a current into the Red sea; since a contrary course of the stream would both spoil the waters of the Nile, and ruin the agriculture of the lower part of Egypt.

In the next place, the soil of the Isthmus itself, is a loose sand, which could not long preserve the form of a canal; because the country on both sides of the Delta, as we advance from the banks of the Nile, quickly becomes a desert; being, in effect, a continuation, either of the Arabian, or of the Lybian Desert.

Howsoever the ancients may differ, in respect of the particular line of course of the canal, or in the name of the first projector of it, they appear to be agreed in this point, that the canals made by the Egyptian and Macedonian kings, originated from the Pelusiac

(or *Bubastic* *) branch of the Nile; and that they were by no means drawn in a direct line between the approximating parts of the two seas; throughout which tract, as has been already said, the soil consists of a deep sand, in which the very tracks of travellers, were obliterated by the winds. And, on the other hand, the canals of Trajan (or Adrian), and of the Caliph Omar, both originated from a point near to, or above, the head of the Delta.

We shall here set forth in abstract, the descriptions given by the different authors, who have written on the subject; that is, Herodotus, Diodorus, Strabo and Pliny: referring for particulars to the extracts from the authors themselves, in the note. † It may be

* That branch was indifferently called by both those names. Bubastis from its temples, and situation, was a place of great importance: of which, more in the sequel.

† Herodotus, Euterpe, c. 158, says the following:

"Psammitichus had a son, whose name was Necos, by whom he was succeeded in his authority. This prince first commenced that canal leading to the Red sea, which Darius, King of Persia, afterwards continued. The length of this canal is equal to a four day's voyage, and is wide enough to admit two triremes abreast. The water enters it from the Nile, a little above the city Bubastis: it terminated in the Red sea, not far from Patumos, an Arabian town. They began to sink this canal in that part of Egypt, which is nearest to Arabia. Contiguous to it, is a mountain which stretches towards Memphis, and contains quarries of stone. Commencing at the foot of *this*, it extends from west to east, through a considerable tract of country, and where a mountain opens to the south, is discharged into the Arabian Gulf."

"In the prosecution of this work, under Necos, no less than one hundred thousand Egyptians perished. He at length desisted from his undertaking, being admonished by an oracle, that all his labour would turn to the advantage of a barbarian."

Strabo says, pages 803 and 804, to the following effect. "There is another canal terminating at the Arabian Gulf, and the city Arsinoe, sometimes called Cleopatris. It passes through those called the *Bitter* lakes, whose waters indeed were formerly bitter, but which have been sweetened, since the cutting of this canal, by an admixture with those of the Nile; and now abound with delicate fish, and are crowded with water-fowl. This canal was first made by Sesostris, before the war of Troy: some say that the son of Psammitichus (Necho) just began the work, and

remarked, by the way, that Herodotus and Diodorus both refer the original design, and commencement of the work, to NECOS (or NECHO), the son of Psammitichus; but Strabo and Pliny, to SESOSTRIS. DARIUS HYSTASPES, however, is allowed, on all hands, to have *continued* the work; and, by Herodotus, to have *completed* it: whilst Diodorus and Strabo agree that PTOLEMY, (the second of the name) and he *alone*, was the person who actually completed it.

Diodorus says pointedly, that Darius left it unfinished, fearing the consequences of the *higher* level of the Red sea: but that Ptolemy made the matter secure, by constructing a sluice, or sluices. Strabo also says, that Ptolemy completed the navigation, without

then died. The first Darius carried on the undertaking, but desisted from finishing it, on a false opinion that, as the Red sea is higher than Egypt, the cutting of the Isthmus between them would necessarily lay that country under water. The Ptolemies disproved this error, and by means of wears or locks, rendered the canal navigable to the sea, without obstruction or inconvenience. Near to Arsinoe stand the cities Heroum and Cleopatris; the latter of which is on that recess of the Arabian gulf, which penetrates into Egypt. Here are harbours, and dwellings, and several canals, with lakes adjacent to them. The canal leading to the Red sea, begins at *Phaccusa;* to which, the village *Philon* is immediately contiguous."

Diodorus, lib. i. ch. 3. "From Pelusium to the Arabian gulf a canal was opened. Necho, son of Psammitichus, first began the work: after him, Darius the Persian carried it on, but left it unfinished, being told that if he cut through the Isthmus, Egypt would be laid under water; for that the Red sea lay higher than Egypt. The last attempt was made by Ptolemy the Second, who succeeded by means of a new canal with sluices, which were opened and shut as convenience required. The canal opened by Ptolemy was called after his name, and fell into the sea at Arsinoe."

Pliny, lib. vi. c. 29. "Sesostris, king of Egypt was the first that planned the scheme of uniting the Red sea with the Nile, by a navigable canal of 62 MP.; which is the space that intervenes between them. In this he was followed by Darius, king of Persia: and also by Ptolemy of Egypt, the second of that name, who made a canal of 100 feet wide by 30 in depth; continuing it $37\frac{1}{2}$ MP. to the *Bitter fountains*. At this point the work was interrupted; for it was found that the Red sea lay higher than the land of Egypt by three cubits; and a general inundation was feared. But some will have it that the true cause was, that if the sea was let into the Nile, the water of it, of which alone the inhabitants drink, would be spoiled."

leaving any impediment. Pliny, however, does not allow that it was *ever finished;* but says that Ptolemy carried it on, as far as to the *Bitter lake.* It was then found, says he, that " the Red sea was three cubits (say $4\frac{1}{2}$ or 5 feet) higher than the low lands of Egypt; and, in consequence, the work terminated at that place." Pliny also makes this observation—that, although the water communication was not completed, yet that the land route was perfect, between Pelusium and other places on the coast of the Mediterranean sea, and the head of the Red sea: and then he describes it.* However, it must not be omitted, that further on, in the same chapter, he speaks of " the river named *Ptolemæus,* that passes by *Arsinoe:*" and which one can hardly refer to any other than the *artificial* river or canal, in question; as surely, no *natural* river passes through that quarter. Strabo also says, that the canal of Ptolemy led into the Red sea at Arsinoe.

If, however, the fact really be, that Darius did *not* complete the canal, it seems extraordinary that Herodotus, who visited Egypt at no great distance of time, after Darius, should have been imposed on respecting the existence of a canal, said to have been made by the orders of the same Darius. Nothing can be more positive than his assertion concerning it, in Euterpe, 158: " The length of the canal (says he) is equal to a four days' voyage—the water enters the canal from the Nile—and terminates in the Red sea." Again,

* Pliny says, lib. vi. 29. that the roads between the two seas are much frequented, on the score of traffic: and that there were three different ones. First, from Pelusium across the sands of the Desert; in which, unless there be reeds stuck in the ground, to point out the line of direction, the way could not be found; because the wind blows up the sand and covers the footsteps. The second road begins at two miles beyond M. Casius, and, after sixty more, falls into the former; passing through the Arabian tribe of *Autei.* The third begins at *Gerro* (or *Adipson*), probably intended for *Gerrha,* near Pelusium; and also passes through the Autei. This is said to be a shorter road by 60 miles, but leading through a rough country, and destitute of water. It has been shewn that the whole distance directly across the Isthmus, is little more than 60 Roman miles.

he says, "it is discharged into the Arabian gulf." And again, speaking of the same gulf, in Melpom. 39, he says, "into which, Darius introduced a channel of the Nile." And yet Diodorus, Strabo, and Pliny, flatly deny it. Who shall decide? If we credit Herodotus, Darius performed it: if Diodorus and Strabo, Ptolemy *alone* executed it: and if Pliny, it never was completed at all! But as it was certainly completed during the caliphate of Omar, in the seventh century, the practicability cannot be questioned. Nor has it been doubted, that either Trajan (or Adrian), opened a canal which, in the upper part, lay much in the same line with that of Omar, (as to the lower part, that seems to have been the same in all.) If, then, Trajan and Omar executed such works, why might not Darius and Ptolemy have done the same?

Possibly the matter respecting Darius, may be thus explained: that his canal, made about two centuries before the time of Ptolemy, had been choaked up, at the opening towards the Red sea, so as to give the appearance of its having never been completed.* A want of attention to the management of the *back water*, at the opening into the sea, would soon have produced this effect: and the work of Darius, might either have been forgot, or Ptolemy might have wished to discredit the belief of the fact.

The authority of Herodotus, individually, must be deemed, at least, equal to that of either of the others; and has also the advantage of being perfectly free from inconsistency: but as his visit to Egypt was so near the time of the transaction itself, it ought on this ground, to be far superior. Besides, Darius appears to have formed plans of discovery and conquest, in the Indian sea, and its branches; and his fleet from the Indus, conducted by Scylax, terminated its voyage at Suez (see Melpom. 44.): so that it is very

* It would seem that the canal of Ptolemy did not remain open to the time of Cleopatra, since her ships were dragged across the Isthmus. Plutarch says, the distance was 36 miles; that is, MP. Possibly, that portion of the canal between the Bitter lake and Arsinoe, may be the part intended. (Life of Anthony).

probable he might have persevered in a plan, that had for its object the junction of the two seas; and of which, the most difficult part had been accomplished to his hands. It must also be recollected, that he was master of the whole coast of the Mediterranean, from Lybia to the Hellespont.

The reason given for his discontinuing the work, does not appear to be of weight, even admitting that the Red sea lay higher than the Mediterranean; for it has been already shewn, in page 462, that the head of the canal was at a sufficient elevation to obtain a current of water into the Red sea.* Why, then, should it not obtain credit, that Darius, as well as Ptolemy and others, completed the navigation; since Herodotus both asserts the fact, and gives a detail of the operation?

We proceed next to the inquiry concerning the position of the *head* of the canal, which originated from the Pelusiac, (that is, the eastern) branch of the Nile.

Herodotus says, that it was at a point, a little above the city of Bubastis; Pliny, at the *Delta;* and Diodorus, *from* the *Pelusiac branch;* but without particularising the place. But Strabo says, at *Phaccusa*, which, as we have said in page 460, is not more than 26 G. miles above Pelusium:† and therefore the account appears improbable, from the want of descent, towards the Red sea. We therefore follow the authority of Herodotus, and place the head of the canal a little above Bubastis, which M. D'Anville has recognised in the modern Bastus, or Besia; and which, as we have seen in the geography of Sanuto, has the bed of a river passing by it to the southward, in the supposed line of the ancient canal of Necho.

* If Bubastis be, as may be supposed, 54 British miles in direct distance from the sea, the level of the surface of the Nile, in the dry season, at that place may be taken at 27 to 30 feet. The descent of the Ganges, through its alluvions, is about six inches per mile, reckoned on a straight line.

† Pelusium itself stood at a few miles above the *embouchure*, at the side of the lake of *Tanis*, now Menzela. Farama, a modern place, stands near the present embouchure, which is common both to the lake, and to the branch called Terraet Mues.

It has also been remarked in page 461, that the distance assigned by Pliny, between the places of commencement and termination of the canal, have an agreement with the report of Herodotus, and with the actual geography.

It is proper to observe, in this place, that M. D'Anville, by placing Arsinoe (say Suez) about 17 miles too far to the south, has falsified the relative position, all the way between it and Cairo; as well as between it and the coast of the Mediterranean sea.

It being admitted that the head of the canal was near Bubastis, which stood at about 48 G. miles to the NW of Arsinoe, whilst this latter (taking in a general way, *Suez* for it) is nearly in the same parallel with Cairo, and at about 60½ G. miles to the eastward of it: moreover, that the border of the hilly tract, *(Mokattam)* terminating from the south, extends in a curvilinear direction, between Cairo and Suez; at which latter place, it again turns to the south, conforming to the western shore of the Red sea; as before its arrival at Cairo, it did to the course of the Nile: we say, all these circumstances being considered, the meaning of Herodotus will easily be understood, when he describes the course of the canal, in respect of the hilly tract. "They began (says he) to sink this canal, in that part of Egypt which is nearest to Arabia. Contiguous to it, is a mountain, that stretches towards Memphis, and contains quarries of stone. Commencing at the *foot* of this (mountain), it extends from *west* to *east*, through a considerable tract of country; and where a mountain *opens to the south*, is discharged into the Arabian gulf." Euterpe, 158.

In the Map, facing page 449, will be found a sketch of Lower Egypt, &c. in which the course of the hilly tract, and of the canals, together with the branches of the Nile, are described. There, the border of the hilly tract appears conspicuous, being described from the observations of M. Niebuhr, Pococke, and others: and it is known, from the descriptions of travellers in general, that to the north of this hilly tract, there begins a plain, which extends to the

N and NE to the opposite coast of the Mediterranean. It will then be understood, that Necho began the canal, in this plain near the foot of the hills, about midway between Cairo and the Red sea, (but considerably to the northward of both, because the hilly tract bends that way), and extended it eastward, inclining to the S, until he came opposite to the head of the Gulf of Suez; where the hills turn rapidly to the south, to form the bed of that gulf; and where the canal, conforming to the edge of the high land, bends also to the south, to enter the head of the gulf: or, according to the words of the historian, the canal, after "extending from W to E, through a considerable tract of country, the mountain, opening to the south, admits its discharge into the Arabian gulf."

What proportion of the work, Necho performed, we are not told; but it would appear, from the vast number of lives sacrificed in it, that he performed the most arduous part: since a great proportion of it, near the foot of the hills, must have passed through a gravelly or rocky soil (this we are warranted to say, from the reports of travellers): whilst the part contiguous to the course of the Nile, was probably through its alluvions: and between the two, through the sandy, or gravelly, soil of Arabia.*

It appears, as well from the geography of Sanuto, as from a very curious fact related by M. Niebuhr, that there is a deep *hollow* in that quarter, between the lake of Menzala, and the border of the hilly tract on the east of Cairo; and which is rendered manifest, by the chain of lakes and watercourses: in other words, that the Nile has not yet filled it up by its depositions, as it has the western quarter of the Delta. It is possible that this state of things, may have originally suggested the idea of a canal to the Red sea, when nature had already done so much towards it.†

* We ought by no means to receive implicitly, the reports concerning the particular portions of the canal, that were said to be executed by different princes; because the accounts themselves are not always consistent.

† Strabo, page 804, speaks of several lakes in this quarter; and which communi-

The passage alluded to in M. Niebuhr (Desc. of Arabia, p. 361), is the following. Speaking of the lake of Menzala, called also *Babeire*, he says, that from this lake, pursuing the course of a branch of the Nile, perhaps the *Terraet Mues*, (concerning which see above, page 460, and also the Map, at page 449), small boats may go within one day's journey of Suez, when the waters of the Nile are high. He was also told that the country was hilly in that quarter: so that no doubt can be entertained, that the termination of this navigation was at the lake *Sheib*, or the *Bitter* lake, so often mentioned; and which is actually at the distance of about one journey from Suez. Doubtless this communication lies in the track of the old canals, and passes by the ancient Bubastis, and Bilbeys.

Herodotus says, that the line of the canal "was lengthened by different circumflexions;" whence it may be collected, that although the general line was south-east, yet that it first pointed very much to the south; that is, by the shortest line to the solid ground, near the foot of the hills; and which is the course of the present water communication, between *Bastus* (or Besia) and Bilbeys. This portion might be 20 G. miles, or more. Then comes the part which skirted the foot of the hills; extending eastward to the Bitter lake, and Heroopolis, whose position has been already given, (we conceive satisfactorily), in page 455, at 13 miles to the north-westward of Arsinoe, at the head of the Red sea: and as Pliny allows $37\frac{1}{2}$ MP. from the head of the canal, (or from Bubastis,) to the *Bitter fountains* (Bitter *lake*, in Strabo, and the Theodosian Tables), out of 62, which is given as the whole distance to Arsinoe, this lake should, of course, be $24\frac{1}{2}$ MP. short of the latter place: and the distance being reckoned by the road, and not on a straight line, cated with each other, by canals. One, in particular, in the *Sethreïtic* province of the Delta; and which may be placed *between* Bubastis and Pelusium; and within the Delta. Consequently, it may be regarded as a part of this *hollow* space; and answers more particularly to the lake through which the *Tenes* river of Sanuto, flows.

will be found to agree. Hence, this lake must lie to the west, and not to the east, of Heroopolis, as M. D'Anville describes.

At this place, according to Pliny (though Herodotus says otherwise) the work of Darius, terminated: because it was feared, either that the low lands of Egypt would be inundated by the waters of the Red sea; or that the waters of the Nile would be rendered unfit to drink. Both Strabo and Pliny agree that the waters of the Nile were led into the Bitter lake: and M. D'Anville finds this Bitter lake in the modern lake of *Shieb* or *Abul Menagee*, situated, according to his geography, at 15 G. miles, east somewhat southerly from Bilbeys: and which position accords with the $37\frac{1}{2}$ MP. of Pliny, given as the length of that part of the canal, which extended between the Nile and the Bitter lake. The lake is said to have the same bitter taste at present. M. D'Anville, however, by placing Suez so far to the south, has lengthened the line of the canal to 35 G. miles, between Heroopolis and the Red sea; although by our construction, it should be no more than 13 or 14; which would make a wonderful difference, in a speculation of opening the canal, anew.

The *Trajanus Amnis** described by Ptolemy, to run between Babylon and Heroopolis, must doubtless have fallen into the same line with that of Necho and Darius, along the foot of the hills: so that he had no occasion to open the ground, but in the space between Babylon and the site of the modern Bilbeys; a great part of which, as will hereafter appear, lay through a deserted bed of the Pelusiac river. This matter seems perfectly clear: Trajan as well as Necho, would naturally keep to the plain: and regard being had to the course of the hills, there appears to have been no choice in the line proper for a canal. Whatsoever applies to the subject of

* It seems to remain a matter of doubt, whether Trajan or Adrian executed this work. We believe that the sole authority rests with Ptolemy, who says that the river of *Trajan* runs from Babylon to Heroopolis.

Trajan, in this place, applies equally to Amrou, the general of the Caliph Omar, who is known, from the authority of the Arabian historians, to have opened a canal between the capital of Egypt and the head of the Red sea.*

It is well understood that certain parts of these canals, remain still open in the quarter towards the Nile; which may reasonably be attributed to their usefulness, in watering the adjacent lands, and in supplying the reservoirs; though without any regard to navigation: and therefore, labour has been regularly applied to keep them clear, in order to receive a portion of the annual increase of the Nile. It appears that there are two canals derived from this river, in the quarter of Cairo: the one, which passes through the whole length of the city itself, and thence to a very considerable distance to the north-east,† filling by the way the lake of the Pilgrims: the other, at about four miles lower down, passes through the village of *Kaliub*, and thence by the north of the site of Heliopolis, far into the plain; where it is said to join the other. It seems to have been a matter of doubt, with some, which of these respectively, was the work of the celebrated persons abovementioned. Savary is of opinion, and quotes Macrizi in his favour, that the canal which runs through Cairo, is the work of *Amrou*, and the one lowest down, that of Trajan. D'Anville was of a contrary opinion; and we agree with him: first, because Ptolemy leads the river of Trajan through Babylon, which there appears every reason to believe, was situated at Fostat, or Old Cairo; and secondly, because the canal of Kaliub seems to be regarded by the people of the country, as the work of the Mahomedans.‡

* Elmakin, in particular.

† M. Maillet was told that it watered the plain to the extent of 20 leagues, to the north-eastward; p. 73: and M. Niebuhr, that in the season of the floods, it led to *Gaza*: meaning doubtless, by the *Terraet Mues* and lake of Menzala; (Desc. of Arab. p. 362.) Pococke's information was much to the same purpose. Doubtless it leads by Bilbeys, and Bubastis, the old course of the canal of Necho.

‡ The two canals of *Fostat* and *Kaliub* must have joined between *Hank* and Bilbeys; but the place of junction is not known to the Author.

It is confidently reported that the traces of the eastern extremity of the canal are also visible near Ajeroud, and thence towards the bay of Suez. Ajeroud, as we have seen, stands at no great distance from the edge of the hilly tract which extends to the NW, from the shore of that bay. Pococke says, Vol. i. p. 134, " Part of the way from *Adjeroute* to Suez, is in a sort of *fossee*, that is thought to be the canal of Trajan; and seems to have run close to the west end of the old city:"—(by which city, it may be concluded *Kolzoum* is intended; although in page 133, he seems to consider these ruins as belonging to the ancient Arsinoe.) M. Niebuhr remarked the same appearance, but was in doubt whether it was a part of a canal, or the bed of a torrent; for, by the herbage growing in it, water must recently have flowed through it; (Voyage en Arab. Vol. i. page 204.) But he was told by a Mahomedan of Damietta, that he had seen, in the quarter towards Suez, the canal by which an attempt had been made to join the Nile with the Red sea; (Desc. Arabia, p. 361): and, in effect, it is a commonly received opinion, that the traces of it are yet visible.

Dr. Pococke also says, (p. 132.) that from Ajeroud he " went on *south* towards Suez, in a sort of hollow ground, in which, as I shall observe, the sea might formerly come." And, his observation afterwards (p. 133), is, " if Heroopolis was on the most northern height I have mentioned,* the Red sea must have lost ground: and indeed by the situation of places there is a great appearance of it; the vallies, and the high ground, with *broken cliffs*, *looking very much like such an alteration*," &c. M. Niebuhr and others,† describe the same kind of hollow, to the extent of four or five miles to the northward of Suez, (Volney says two leagues,) and which appears from all accounts to be the deserted bed of the sea: or rather that bed filled up with sand, to a height above the ordinary

* He took *Ajeroud* for Heroopolis.

† Desc. Arabia, p. 354: and Volney, Vol. i. ch. 14.

level of the sea, in the course of its gradual retreat, since the earliest times.*

It may be conceived then, that from the *Bitter* lake, which might be situated five or six miles to the NW of Heroopolis, the course of the canal began to bend more to the southward; passing the latter place, as well as Ajeroud (taken by us for the *Thaubasio* of the Itinerary), and finally bending still more to the south from Ajeroud, it passes onward to Suez, in which neighbourhood, according to Pococke and others, the traces of a canal still exist. He indeed ascribes the work to Trajan; but, it may be supposed, that, whatsoever variations may have taken place, in the course of the *upper* part of the canal, (from the various plans of the several monarchs who undertook it,) the part along the foot of the hills, and thence to the Arabian gulf, was in all cases the same, or nearly so; and more especially in the part in question. M. Niebuhr, in his plan of the Bay of Suez, &c. has marked the same traces, during three or four miles, in a SE by S direction. The people on the spot call it *Mosbeiha*, and *Diisra*.

That the head of this gulf should retire, appears consonant to reason and experience; as well from the operation of the tides, as of the strong south winds, that are known to occasion inundations of the hollow space abovementioned: and although an opposite wind may, in its turn, occasion the sea to retire, beyond its accustomed bounds, yet, on flat shores, waters ever deposit more matter than they carry off. The surge also, has a perpetual tendency to wash the sand up to a higher point: and even the tide, which rises higher at the inmost recess of this sea, than in any other part, must operate towards the same end.†

* If an opportunity should offer of describing with precision the plan and sections of the ground adjacent to the head of this gulf, they will doubtless afford much satisfaction respecting the subject of the retreat of the sea.

† As the highest tide in the Red sea is found at *Suez*; so are those of the Mediterranean, at the upper ends of the gulfs of Venice, and of Kabes. The conformation

Concerning the superior level of the Red sea, to the Mediterranean, we cannot help regarding the report, as being founded on fact;* and that the ancients had ascertained it. Since the waters of the North Atlantic eternally flow into the Mediterranean, this latter ought to be the lowest; as water can only run from a *higher*, to a *lower* place. Again, the Indian sea, of which the Red sea is a branch, runs into the *South* Atlantic, round the Cape of Good Hope, by a constant, copious, and rapid stream: and is more particularly rapid, during the southerly monsoon, when the surface of the whole Indian sea, is impelled northward by the *general* wind; and cannot escape, in the form of a current, as in the other oceans, because the land prevents it. At this season, therefore, the difference of level between the Red sea and the Mediterranean, must be greater than at others: and it may have been at this time that the comparison was made. No one can doubt the great difference of levels between the gulf of Mexico and the North Atlantic, although parts of the same ocean.

It has been observed in the course of this discussion, that the head of the canal of Necho, at Bubastis, was equidistant from the two seas; and that it was doubtless contrived for the purpose of securing a current all the way to the Red sea, to prevent the admixture of sea water with the Nile; which was distributed through Lower Egypt, by means of a tissue of canals, for the purposes of agriculture, and domestic uses. That the water *ran into* the

and position of the land is much the same in all; being such as to arrest, and also to compress the *wave* of the tide moving westward. Accordingly, the land appears to have gained considerably on the sea, in all those places; the wave having a perpetual tendency to cast up sand, or pebbles.

The rise of the tide at new and full moon, is about $3\frac{1}{2}$ feet at Suez; but less than one foot, in the middle part of the Red sea. At the entrance it is 4 feet: see Niebuhr's Desc. of Arabia, at the end. More will be said respecting the tides in the Mediterranean, under the article *Syrtes*.

* The words are, "higher than Egypt:" meaning doubtless the lower parts of the Delta, and which are only just raised above the level of the Mediterranean.

Red sea is proved from our Author, who says that "it *entered* the canal from the Nile, and *discharged itself* into the Arabian gulf."

The canal attributed to Trajan, and that of Omar, led out of the Nile at a much higher point than those before-mentioned: that is, above, or near to, the head of the Delta.* Perhaps, it had been discovered, that, in the former ones, the current, from the smallness of the descent, was too weak to cleanse and keep open, the bed of the canal; particularly at the place of its discharge into the Red sea, where so many causes operated to choak it up: and that, in consequence, it had remained open but a short space of time. Or, it may have originated in the decay of the Pelusiac branch itself, which rendered it necessary to draw the supply of water from the main river. The elevation of the level at Bubastis, has been supposed, in page 468, to be about 30 feet above the level of the Mediterranean, in a course of 54 B. miles: but from the neighbourhood of Cairo (Babylon), although the difference of level from the sea would be increased to about 50 feet, or two thirds; the distance by the line of the canal, to the Red sea, would be increased no more than one-third part. Consequently, the descent of the water, in the canals of Trajan and Omar, would be one-third *more* than in that of Necho, &c.† But even with this advantage, the canal does not seem to have continued long navigable; and if we may judge from circumstances, for there do not appear to be any historical notices, relative to the decay of the canals, none of them produced any lasting advantages: otherwise, for what purpose were the land communications established at so vast a labour and expence,

* The head of the Delta was probably opposite to Heliopolis, at that time.

† The modern canal of Alexandria leads out of the western branch of the Nile, at Rahmanie; from which, to the ancient mouth of *Canopus*, is about $\frac{1}{3}$ less distance than to Alexandria. Admitting that it was made nearly *straight*, the descent of the watercourse, might be nearly equal to that of the natural course of the river; and was well arranged. At present the water only flows at the time of high Nile: the rise may probably be 9 or 10 feet, at that place.

between Coptos and Kosire, and between Coptos and Berenice, across the desert of Thebais; and that so shortly after the completion of Ptolemy's canal? Nor have we an idea, that at any rate, such a work would be lasting, although it might flatter the vanity of those who executed it: for, it may be remarked that the canal of Darius did not remain open to the time of Ptolemy Philadelphus; nor that of the latter to the time of Cleopatra. And moreover, that Ptolemy the geographer, does not describe any water communication, between the Nile and the Red sea, although he lived within 50 years of the time of Trajan; whose canal or river, he extends only the length of Heroopolis. And finally, that the Theodosian Tables, supposed to have been formed in the second century of our era, are equally silent respecting any such communication. So that there is no reason to believe, that any of the ancient canals remained open during a course of two centuries: and that Trajan's was of a very short duration indeed, notwithstanding the apparent advantage in point of descent.*

It is proper to observe, that in stating the difference of levels, that of the Nile is taken at its lowest pitch: and as it is known to swell periodically more than 25 British feet at the head of the Delta,* this gave an advantage in favour of the current towards the Red sea;

* The pilot of Solyman's fleet, in 1537, a Genoese, speaks of cisterns at Suez, that had in former times been filled by an aqueduct from the Nile. But he says nothing concerning any navigable canal; whence it may be inferred, that the canal of Omar had so long ceased to be navigable, that it was forgot: and also that the waters of the Nile during its floods, had continued to run to Suez, long after the navigation had ceased. The canal of Alexandria also, has long served as an aqueduct, after it was grown too shallow for navigation: but the existence of the city itself, depending on this supply, there has been a regular system of management, by which it has been kept open. Suez, in latter times, has been of too little importance, to demand such an attention towards *its* canal.

† M. Niebuhr's observations prove that the variations in the height of the Nile amount to at least 25 English feet, at the height of Cairo. There is little doubt but that it rises very much more, in some years.

increasing the quantity of the descent, at *high* Nile, to nearly one half more, than at the season when it is lowest; and in proportion during the intervals of rising and falling. But as the floods of the river from about this point to the sea, decrease gradually, so as to form a regular slope, down to the level of the latter, a great part of the advantage was lost at Bubastis, where the river cannot be supposed to swell more than 14 or 15 feet.* The advantage above, was however attended with a vast increased expence, in the article of excavation; which of course, kept pace with the elevation of the ground, raised by the depositions of the floods: and the engineer of Trajan must have dug, in the first instance, to the depth of 25 feet, at least, before he came even to the surface of his canal, during the dry season; whilst the engineer of Necho, had only 14 or 15 feet to remove. So that the quantity of the excavation in the canal of Trajan, to the point of junction with the old canal, (with the increased length and depth, and the slope of the sides, occasioned by the latter circumstance) must have been nearly double that of Necho and Darius. Perhaps, a regard to expence may have regulated, in some degree, the position of the head of the canal of Necho.

It remains, that a word should be said respecting the different reports of the dimensions of the canals. Herodotus, Euterpe, 158, says that the canal began by Necho, and completed by Darius Hystaspes, was "wide enough to admit *two triremes abreast.*" Strabo, (p. 804.) says, that the canal of Ptolemy, the only one admitted by him to have been executed, was 100 cubits broad, and had a depth sufficient for the largest merchant ships. Pliny, lib. vi. 29, allows only 100 *feet* for the breadth, but 30 for the

* The reader is referred to the Appendix to the Memoir of the Map of Hindoostan; or to the Philosophical Transactions of 1781, for further satisfaction respecting the rise of river floods. It will be found under the article Ganges.

M. Niebuhr says that the Nile swells about four feet, at Rosetta and Damietta. Others say still less, and this appears the most probable.

depth; which relative proportions are as improbable, as the absolute statement of the depth is exaggerated.

*** Since this Section went to the press, the Author has had the satisfaction to peruse Mr. Browne's Travels in Africa; which, he conceives, will be classed amongst the first performances of the kind. The aids it brings to geography are great, and will probably lead to further discoveries; as it forms a link between Abyssinia on the east, and Bornou on the west. Moreover, it confirms, in a great degree, two positions advanced in the present system of African geography: first, that the Niger *does not* join the Nile: and, secondly, that the most remote head of the Nile is *not* situated in the quarter of Abyssinia, but far to the south-west of it. These remarks belong properly to Section XVI.

Mr. Browne has also a remark which applies to the present Section. He says, (p. 177.), that although his guides refused to accompany him, when he wished to view the eastern portion of the canal, which extends from *Birket-es-Sheib* to Suez, as they had previously agreed, yet that "all consented that marks of the canal existed, and some of them arose to his own observation." He adds, that "remains exist of a stone pipe for conveying water to the site of *Kolsúm*, from *Bir Naba*." This is a Well situated some miles to the east of Suez, and on the opposite side of the shallow inlet of the sea that passes before it. (Niebuhr, Vol. i. 178.) One may conclude that this work was unnecessary during the existence of a canal from the Nile.

SECTION XVIII.

GENERAL OBSERVATIONS ON THE FLOODS AND ALLUVIONS OF RIVERS; APPLIED MORE PARTICULARLY TO THE NILE, AND ITS DELTA: WITH THE CHANGES THAT HAVE TAKEN PLACE IN THE FORM AND DIMENSIONS OF THE DELTA; AND AN INQUIRY CONCERNING THE SITE OF THE CITY OF MEMPHIS.

Preliminary Observations.—All capital Rivers do not form Deltas; *these being composed of Alluvions, deposited only in* shallow *Seas.* —*Two different* Degrees *of* Slope *in the Beds of Rivers—no Arguments required to prove the Progress of Alluvions; but the Rate of their Progress, uncertain—vast Length of Time, required to form them—Manner in which they are extended into the Sea.*—Bars *of Rivers, how formed; with Remarks on them.—The Alluvion, which is originally formed on a Level with the Sea, is raised by the* Surge; *and afterwards formed into a regular* Slope, *by the Depositions of the* Land Floods.—Sea *Alluvions, slope a different Way from those of* Rivers.—*The Delta of the Nile, originally covered with Water; and was afterwards in the State of a* Marsh; *according to Herodotus*—Sesostris *drains the Land, by Means of Canals; and distributes it.—Deltas comprize Tracts of Land, in an imperfect State of Formation—their Progress towards Completion, shewn by the Rivers confining themselves to fewer Channels.—Some of the Causes, that produce the Changes in the Courses of Rivers.—Position of* Memphis, *deduced from ancient Authorities, and proved by modern Travellers.—A Branch of the* Nile *turned aside, to prepare the Ground for it—Report of Herodotus, regarding this Fact, confirmed by Appearances.—Ancient Course of the Nile, traced along the Foot of the* Lybian Hills.—*Conjecture respecting the Lake* Mœris.—*Proofs of the Change of Place of the* Apex *of the* Delta: *which*

has advanced downwards—opposite to Heliopolis, *in the Time of* Strabo.—*The western Arm of the Nile grows shallower.—Proofs of the Rise of the Soil in Egypt.—Remarks on the Inundations of Rivers.*

At a time when some new matter respecting the geography of Egypt, may reasonably be expected, it would be premature to enter into any other kind of dissertation respecting it, than such as may serve merely to render the present subject intelligible. The construction of the geography of the Delta, &c. that appears in the Map, at page 449, is therefore to be regarded as an outline only; though, as such, it is formed of the best materials, that we have been able to procure. Those furnished by M. Niebuhr, are the first, in point of value; as they not only include the whole form of the Delta, and the relative situations of the city of Cairo, the Pyramids, and the sites of Memphis, and Heliopolis, to the upper angle of that celebrated tract; but are also adjusted by the aid of celestial observations.* A chart of the coast, between Alexandria and Rosetta, brought to England by a naval officer of great distinction, from Lord Nelson's fleet, adds very much to the accuracy of that part: and for the rest, we have referred to M. D'Anville's Map of Egypt.

It has been stated that we do not profess to enter farther into the geography of Egypt, than what relates to the alluvions of the Nile, and certain other particulars; since M. D'Anville has already entered so deeply into the subject of the geography at large; ancient, as well as modern; and moreover, that when a new body of materials does appear, the subject will require more time, and room, than can be

* See M. Niebuhr's *Voyage en Arabie et en d'autres Pays Circonvoisins*, &c. Vol. i. p. 71, &c.—French edition.

The Map No. VII. at page 449, contains both the ancient and modern Delta; the former according to the ideas of Herodotus; the latter according to the latest observations.

allotted to any particular division of this work. What we propose, therefore, to undertake, in this and the succeeding Section, is, to remark the changes, in respect of form and extent, that have happened to the Delta, since the early times of history; together with the probable cause of those changes: and also to inquire into the position occupied by the city of Memphis, and the change of course of the Nile, in its neighbourhood. The Egyptian *Oases*, and the position of the temple of Jupiter Ammon, will form the subject of a future Section.

It is a circumstance well known to the generality of readers, that rivers which deposit great quantities of matter, do also very often separate into two or more branches, previous to their discharge into the sea; thus forming triangular spaces, which the Greeks aptly called DELTAS, from the resemblance they bore to the form of that letter of their alphabet: and also that these Deltas almost universally encroach on the sea, beyond the general, and it may be supposed, original, line of the coast.

However, the formation of such Deltas, even by rivers of the first magnitude, is by means universal; on the contrary, some of them terminate in deep inlets, or *Estuaries*, instead of projecting forms: or, if the expression may be allowed, they terminate *negatively*, instead of *positively*. Of this class may be reckoned the great rivers of the *Amazons*, *Plata*, and the *Oronoko;* besides many others, which perhaps bring down an equal quantity of the matter of alluvion, with the *Nile*, the *Ganges*, or any other river, that may form the most projecting Delta. This difference appears to be owing to the original conformation of the adjacent coast, and to the depth of the sea, beyond it. If the *Estuarium* into which the river discharges itself, and the sea beyond it, are exceedingly deep, the alluvial matter will be lost in the profundity; whilst in a shallower sea, not only the bed of the inlet itself, will be filled up, but the matter will form a projecting tract beyond it. And here it may be observed, that the

increase of Deltas will almost necessarily be slower in modern than in ancient times; since the farther the work advances, the deeper the space to be filled up, must be.

The Nile is amongst that class of rivers which has the most remarkable, and most prominent Deltas: and its Delta, from the celebrity of the country, of which it forms so considerable a part, has been the theme of history, from the earliest times. Accordingly, we are enabled to trace many of its changes, from positive records; whilst those of other rivers, can only be traced from the appearances which they exhibit.

Before we endeavour to trace these changes, it will be proper to offer some general observations on the courses of rivers, through their own alluvions; on the original formation of Deltas, composed of such alluvions; and on their subsequent changes.

All Deltas, as would appear by the sections of the river banks, as well as of the ground itself, to a great depth, are formed of matter, totally different from that, of which the adjacent country consists; proving that they are the creation of the rivers themselves; which rivers, having brought down with their floods, vast quantities of mud and sand from the upper lands, deposit them in the lowest place, the sea; at whose margin, the current, which has hitherto impelled them, ceasing, they are deposited by the mere action of gravity.

It is no less certain, that during the progress of forming by its depositions, the *low* land which is to constitute the *future* delta, the river, by its overflowings above, also raises such parts of the adjacent countries, as are subject to be overflowed by its waters. And hence it must be conceived, that such rivers must gradually raise their beds: since, in order to run at all, they must have a *continued declivity*, the whole way to the sea: so that the very act of *extending their course*, by forming *new* land *in* the sea, requires a gradual elevation of the ground the whole way from the margin of the sea,

upwards. Thus, alluvial countries must continue to rise, by slow degrees, whilst the alluvions encroach on the sea; and the rivers themselves overflow and deposit.

The declivity, or slope, of the *new formed* land, as well as of the *old*, will be regulated by the influence of the level of the sea, on *that* of the *floods* of the river: for although the river may swell 30, or more feet, with the periodical rainy season, in the parts removed from the sea, yet at the point of its junction with the sea, it cannot rise at all; since water cannot be retained in a heap, but must form a common level with the mass, with which it mixes. The land flood will therefore form a slope of such a nature, as its gravity, combined with the delivity of the stream, will admit: and it appears from experiment, in another river, (the Ganges) that the slope commences about the head of the Delta. But in the Nile, we are told that it begins much higher; which is very probable, as its Delta is so much smaller than that of the Ganges. Below the point in question, at any given place, the elevation of the periodical flood, as well as the level of the country, bears a pretty just proportion to its distance from the sea. This matter is abundantly proved by experiment, and may be verified with ease.

But as the Delta of the Nile, in common with other tracts of the same nature, was *founded in the sea;* and, in consequence, the course of the river itself must have been prolonged through a tract, which cannot, in the nature of things, be formed (notwithstanding the regular and constant depositions of the floods) into *so great* a slope as that part of its bed, which lies through the original land; it must of necessity happen, that there will be *two different degrees* of slope, in the beds of such rivers: the steepest over the original land; and the least steep, over what was originally the bed of the sea.

This opinion seems to receive confirmation from the history of the river before us; although other instances of the like kind could be adduced. For, it will appear, that the head of the Delta of the Nile, has absolutely *moved downwards*, several miles, since the date

of history: which must doubtless be owing in part, to the *extension* of the *greater* slope *downwards* by the depositions of the floods; if we admit them to have raised the *original* land every where equally, and to have formed in a course of time, a *stratum* of vast depth; by which operation, the angle formed by the termination of the *greater*, and the commencement of the *lesser*, slope, is, in effect, removed downwards. These two slopes may be compared to the slope of a hill, and that of a gently declining plain, at the foot of it. A stream will run down the hill, in a channel nearly straight, but having reached the plain, it wanders, and separates into different branches. If the hill could be removed within the edge of the plain, the place where the windings and separation began, would advance in the same proportion: and thus we regard the two slopes, and their operation.

It appears quite unnecessary to offer any arguments in proof of the assertion, that alluvial countries gradually rise; or that they gradually incroach on the sea; since the sea coasts of all Deltas project beyond the general line of the coast; that islands in the sea, have in several instances been joined to the main land, by the matter deposited by rivers: and that not only history, but ocular demonstration teaches us, that the levels of different alluvial tracts, are very considerably raised.* But, it is probable that the progress of the elevation, as well as of the incroachment, has been very much over-rated, in many instances; and in none more than in the case of the Nile, by modern travellers. That the Delta has increased in the part towards the sea, since the days of Herodotus, cannot be questioned; when the increase of *such* coasts, in other countries, are perceptible to the senses. The *quantity* of the increase, in a *given* time, is, however, a *desideratum*: for it happens that the record of the distance of the sea coast from Heliopolis, (in Herodotus)

* Pliny has a catalogue of islands that have been thus joined to the main land; lib. ii. c. 85, 89. More will be said concerning the elevation of the soil, in the sequel.

on which an argument has been founded, is quite erroneous.* It has been noticed before, that the farther the delta advances, the deeper the sea that is to be filled up; and consequently, the slower the rate of encroachment must be.† There seems to be little or no alteration at the *Canopic*, and *Pelusiac* mouths of the Nile, since the time of Herodotus; which has been owing to the choaking up of those branches; in which no water now runs, but during the season when the Nile is swoln. But the intermediate part of the coast, between those branches, has doubtless received great

* Our Author says, Euterpe 7, that the distance from Heliopolis to the sea, differs only 15 stadia, from that betwixt Athens and Pisa: 1500 stadia being the exact distance betwixt Heliopolis and the sea. Now, it has appeared in p. 16, that Athens and Pisa are distant from each other, 105 G. miles; but Heliopolis is no more at this present time than 88 miles from the Canopic mouth of the Nile, which was probably the part meant (for the sea is, at present, much nearer in some directions); and from the supposed point of the Delta opposite to Heliopolis, 86; which was probably the place reckoned from. Hence, it may be clearly perceived, that no comparison can be drawn between the *present*, and the *former* extent of the Delta; since the number of stades is wrong in the first instance. (See the reasonings of M. Savary and M. Volney on this fact, in their respective books of Travels.) But M. Volney has, however, made some excellent observations on the Nile, and its inundations and alluvions.

Herodotus says that *Busiris* (taken for *Abusir*) is situated in the *middle* of the Delta. Euterpe, 59. It is remarkable, that Abusir stands so precisely in the middle of the ancient Delta, that there is no sensible difference, between the distance at which it lies from Pelusium, and from Canopus, respectively, on the east and west; and from the site of Cercasora, at the apex of the Delta, and the most prominent points on the Delta, on the N and S.

There is something very remarkable in this coincidence.

There was a celebrated temple of Isis, *near* Busiris. Herodotus says, *at* Busiris; but the magnificent remains of the temple at *Baalbeit*, (no doubt those of the temple of Isis) which are particularly described by Pococke, appear to be situated at $4\frac{1}{2}$ G. miles to the NW of Abusir, which stands at the side of the Sebennitic river, as Busiris did. See Pococke, Vol. i. p. 21.

† The sea is now eleven fathoms deep, at little more than three miles from the shore, between the ancient Canopic and Bolbitine mouths.

additions, by the waters of the Rosetta and Damietta branches: though perhaps, a few miles only may have been added.*

Considering, then, the extreme flatness of the Delta; the quality of its soil, which is totally different from that of the adjacent countries; its form, which projects so far into the sea, beyond the general line of the coast, on the one hand; and on the other, filling up a space, which, reasoning from appearances, looks like a bay or gulf of the sea; one can hardly doubt that the space which it occupies, was originally a part of the sea, from the neighbourhood of Pelusium, or of mount Casius, to that of Alexandria; and southward to the foot of the hills of the Pyramids, and of Mokattam: which is yet allowing little more for the depth of the bay, from the supposed line of the coast, than the lower point of the Delta now advances beyond it.

No doubt, when we carry back our ideas to the time when the sea washed the base of the rock, on which the Pyramids of Memphis stand, the *present* base of which is washed by the inundation of the Nile, at an elevation, most probably, of 70 or 80 feet, above the surface of the same sea; we are lost in the contemplation of the vast interval of time, that must necessarily have elapsed since the foundation of the Delta was first laid. But, appearances speak too clear a language to be misunderstood: and we are borne out in the supposition that the Delta has been formed piece-meal, by a process which we shall now endeavour to describe. The following may accordingly be taken, as a specimen of the *progress* of alluvion; and which may be seen, in all the different stages of the process, at the mouth of any large river, that deposits rapidly, and plentifully.

* It is by no means certain, how far the city of Bolbitine stood from the sea; but probably much nearer than the ruins of *Abumander* (taken for Bolbitine) now are; these being upwards of eight G. miles; and M. D'Anville places Bolbitine less than 4 from the sea. More than 20 marble columns had been dug up from the sand, at this place, about the time of M. Niebuhr's visit to Egypt. (Niebuhr, Vol. i. p. 45.)

All rivers preserve, to a certain extent of space, which is proportioned to the velocity of their streams, a current of water, *into* the sea, beyond the points of land, that form their *embouchures;* when, by the continued resistance of the sea, they at last lose their motion. The mud and sand suspended in these waters, during their motion, are deposited, when that motion ceases; or rather, they are gradually deposited, as the current slackens: according to the gravity of the substances that are suspended. This deposition, then, will form a bank or shallow, in the sea; and which will be of a *fan-like* shape, consistently with the form, in which the water of the river disperses itself. This bank is of very considerable breadth; and is, of course, constantly on the increase, in height, as well as extension: and the additions constantly made to its *breadth*, will be on the side towards the sea. Until the bank rises up nearly to the surface, the river water which is continually poured into the sea, escapes freely over it: but when the bank has risen so high, as to inclose the water in a kind of lake, it is then compelled to force its way *through* the bank: although the passage will be both *narrow* and *shallow*, whilst the bank remains under water. This passage is technically named a BAR: for such it is, in respect of the channel of the river, although it be the deepest part of the entrance to it.

The position of this opening through the bank, will be regulated by the direction of the stream of the river, at its termination in the sea; and this direction, again, by the prevalent motion of the sea, along the coast; the mouth of the river always falling obliquely into the line of the *sea* current.* Accordingly, when the river enters the sea *obliquely*, the bar will be at one side of the bank; and on that side which is the farthest down, in respect of the sea

* Here it is proper to observe, that although the *general* motion of the sea, is to the *east*, along the coast of Egypt, yet that there is a counter current, from the Rosetta river, through the bay of Abukeir; at whose point, it falls into the general easterly current, which is *thrown* off from the coast by the projecting form of that point.

current. But if the river enter the sea, in a line perpendicular to its shore, the opening, or bar, will be through the *middle* of the bank.*

As the bank rises to the surface, the opening increases in depth and width, until it becomes absolutely a continuation of the course of the river; since its waters require the same breadth and depth to escape *here*, as in the upper parts of its course. And thus the upper part of the bank becomes gradually a portion of the firm land; whilst the outer part goes on accumulating, and the *bar* is gradually removed farther out: in effect, there will be a repetition of the same order of things. And hence it will clearly appear, that the bank thus laid in the sea, by the current of the river, is, in reality, the GERM of the growing alluvion.

The bars are usually swept away every season, by the periodical flood; which, although it cannot rise to a higher level than the sea, is increased in velocity, by the increase of the body of water, above; and also by *that* of its descent; as the flood swells to a greater height above, and therefore forms a slope towards the sea. These floods also bring the greatest addition to the growing alluvion: and, not unfrequently, change the direction of the channel, and with it, of

* The position of the bar of any river may commonly be guessed, by attending to the form of the shores at the *embouchure*. The shore on which the deposition of sediment is going on, will be *flat*, whilst the opposite one is *steep*. It is along the side of the latter, that the deepest channel of the river lies; and in the line of this channel, but without the points that form the mouth of the river, will be the bar. If both the shores are of the same nature, which seldom happens, the bar will lie opposite the middle of the channel. See the Map, No. VII. at page 449.

Rivers in *general*, have what may be deemed a *bar*, in respect of the depth of the channel within; although they may not rise high enough to impede the navigation: for the increased deposition that takes place, when the current slackens, through the want of declivity, and of shores to retain it, must necessarily form a bank.

Bars of small rivers may be deepened, by means of *stockades* to confine the river current, and prolong it beyond the natural points of the river's mouth. They would operate to remove the place of deposition farther out, and into deeper water.

course, the position of the bar: their depositions being laid farther out in the sea, by reason of the greater velocity of the current.

Having endeavoured to explain the mode in which the alluvion gains on the sea, we shall next endeavour to explain the manner in which the changes and modifications of the existing alluvions are wrought.

The alluvions thus formed in the sea, are, in their original state, *flat*, and are also on a level with the ordinary surface of the sea: but as the surge repels that part of the deposited matter, which rises to the surface, it will be raised somewhat above the level: and as this agency has regularly operated on all the new made alluvion,* it must have formed one continued level, but for the interposition of the periodical floods, which have formed it into a regular slope, corresponding with its own.†

As the alluvion, then, is extended into the sea, so is its level gradually raised into a slope: an operation that is constantly going forward, but which cannot keep pace with the extension, because every addition to it, occasions a deficiency in the slope.

Until the new formed alluvion was considerably raised, it must have partaken very much of the character given it by Herodotus; who says, that in ancient times, " the whole of Egypt, except the province of Thebes, was *one extended marsh:*" Euterpe, 4: and that when " the Nile rose to the height of 8 cubits, all the lands above

* An *exception* will be stated in the sequel.

† The *sea* alluvions differ from those of *rivers*, in that they form a slope *towards the land;* the muddy sea, like the muddy river, depositing more matter on the bank, than at a distance from it. But the matter itself may have been first carried by a river into the sea, and afterwards cast up in the most convenient place. It cannot be doubted but that the flat part of the island of Trinidada is formed of the mud of the river *Oronoko*, &c. which the perpetual westerly current, that ranges along the coast, deposits. Romney Marsh appears to owe a part, at least, of its extension, to a like cause. The general motion of the sea, is more *easterly*, than *westerly*, along the south coast of England; as is proved by the general state of the alluvions.

Memphis were overflowed." (Eut. 13.)* Both of these traditions clearly point to a state of things that *had* existed; although, probably, at a period too remote to be fixed: for there must have been a time when the Delta was not only a marsh, but was even covered with water; and when the sea must have advanced so near to the *site* of Memphis, as to allow the annual flood to rise no higher than 8 cubits, or 12 to 14 feet, at that place. He afterwards remarks, that it rose 15 or 16 cubits in his time; which was the natural progress of things; as the point of contact of the *land* waters, with those of the *sea*, was removed farther out.

So long as the alluvion of the Delta remained in the state of a marsh, the waters of the Nile, through the want of declivity to carry them off, and the pressure of the sea water from without, when the river was low, may be supposed to have formed a tissue of canals, interspersed with lakes and marshes. But when the land began to acquire some degree of solidity in the upper parts of the Delta, canals, in the nature of drains, would be formed by the hands of men, and dykes raised along the banks of the rivers, in order to exclude the redundant waters from the appropriated lands. And this is probably the period referred to by Herodotus, when he describes "the *vast* and *numerous* canals by which Egypt is intersected;" and which he attributes to SESOSTRIS. Euterpe, 108. He was also told, that the same prince made a regular distribution of the lands of Egypt, assigning to each Egyptian a square piece of ground; and that his revenues were drawn from the rent, which every individual annually paid him. (109.)†

* In Euterpe, 15, he says, "the Delta, as I was myself convinced by observation, is still liable to be overflowed, and was formerly *covered with water*.

† The date of this event was doubtless beyond the reach of history; but it has been the general custom, to refer every transaction, however remote, to some person, whose name is celebrated in the history of the country, in which it happened.

Herodotus adds, that "whoever was the sufferer by the inundation of the Nile,

As the land rose by depositions, the waters would naturally confine themselves to fewer channels; since the land, when in a firmer state, would require a greater force to divide it. At a time when the upper part of the Delta, had acquired a degree of firmness and elevation, we learn from our Author, that *three* natural channels, alone, conveyed the waters of the Nile to the neighbourhood of the sea; a quarter in which the alluvial land must ever be regarded as in an imperfect state of formation. At present, *two* alone convey it to the same quarter, during the season when the river is not swoln; and one of these is growing shallow. Can it be doubted, then, that a delta, is, (comparatively speaking) land in an imperfect state of formation; that the natural progress towards completion, is that of the river's confining itself to fewer channels; and that the inundation, from being a complete mass of water, spread uniformly over the country, becomes merely an overflowing of the river, extending to a certain distance, and forming the country adjacent to each bank, into a slope of several miles in breadth, of which, the highest part is the crest of the bank itself; from the circumstance of its depositing more sediment near the bank, than at a distance from it? But as long as the alluvion continued too flat to communicate a sufficient velocity to the river, when in its low state, it would continue to separate itself into many different streams, although one of them would probably surpass all the rest, in bulk. On the above principle, then, as the *greater* slope, described in page 485, extends itself downwards, the Delta ought to *retire* from it: or, in other words,

was permitted to make the king acquainted with his loss. Certain officers were appointed to inquire into the particulars of the injury, that no man might be taxed beyond his ability. It may not be improbable to suppose that this was the origin of geometry, and that the Greeks learned it from hence. As to the *pole*, the *gnomon*, and the division of the day into twelve parts, the Greeks received *them* from the Babylonians." Euterpe, 109.

The like kind of humane and judicious attention to the damages sustained by individuals, by the floods or incroachments of rivers, prevails in Bengal, as in Egypt. The changes of property, by alluvion, are equally attended to.

the river, in its course through the high level, should flow *unique*; and the *base* of the Delta should gradually *contract*: and this, we trust, will be satisfactorily proved, in the sequel.

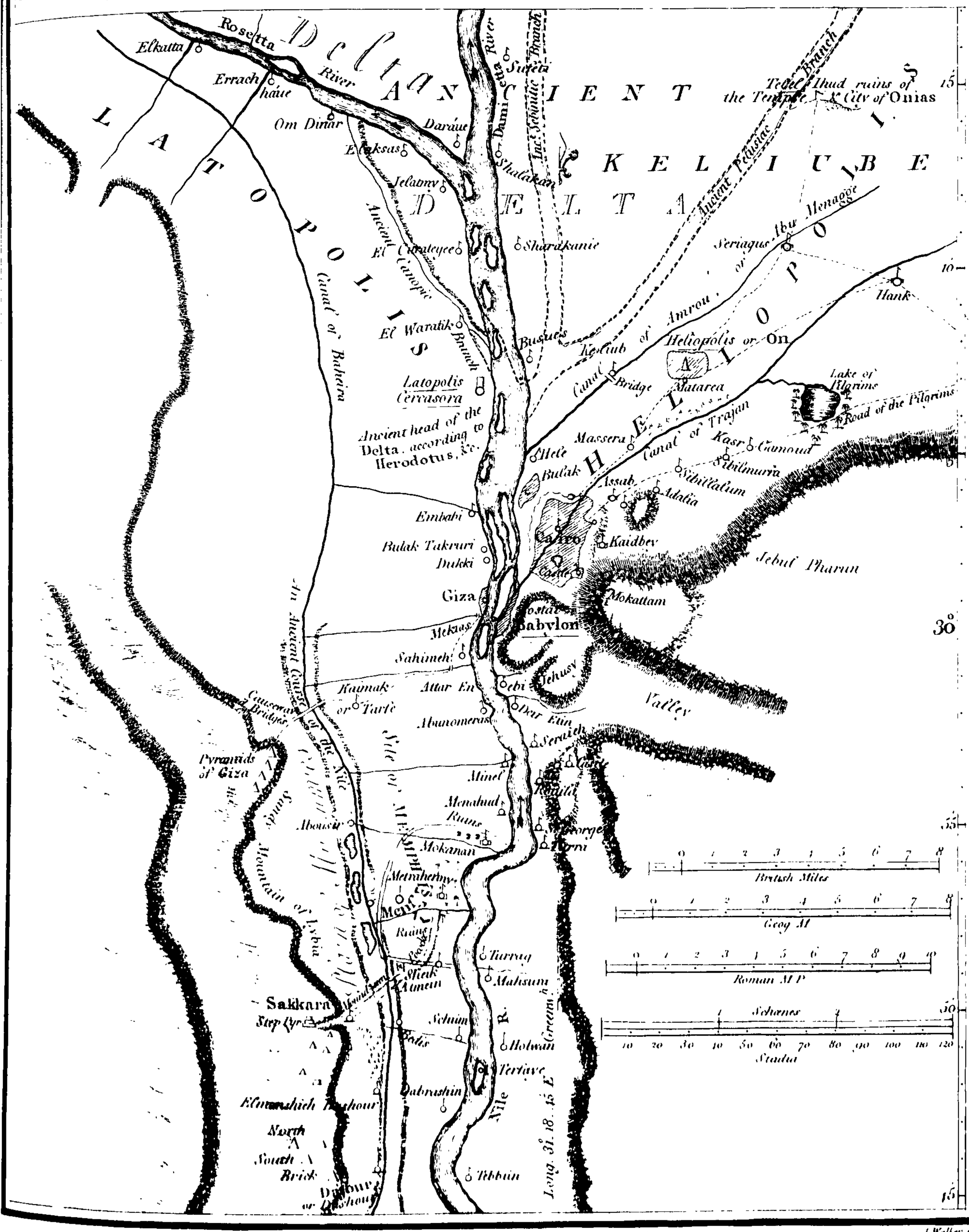
It has been said, that in early times, the place of separation of the branches that formed the Delta, was much higher up, than at present. To satisfy ourselves on this head, little more is necessary than to refer to the ancient accounts of the situation of the *apex* of the Delta. This is indeed a fact that ought to be impressed on the mind of the reader; as without this conviction, he may not readily give credit to the reports of other changes, that have taken place. This is a point, therefore, on which we mean to enlarge; but as, besides the notices concerning its position, in respect of the cities of Heliopolis and Cercasora, which stood very near it, its distance from Memphis is also given. So that it becomes necessary to ascertain the position of this latter, as a point of outset: in the course of which inquiry, several very curious circumstances will arise, respecting the ancient course of the Nile, in that quarter; which will be perfectly illustrative of our subject, at large.

Position of MEMPHIS.*

Herodotus, speaking of the inundations of the Nile, says, Euterpe, 97, "as long as the flood continues, vessels do not confine themselves to the channel of the river, but traverse the fields and plains. They who go from *Naucratis* to *Memphis*, pass by the Pyramids: this, however, is not the usual course, which lies through the point of the Delta, and the city of *Cercasorus*." Pliny also says, lib. xxxvi. 12. "The Pyramids are situated between Memphis and the Delta." Consequently, by both of these authorities, Memphis was situated *above*, that is, to the southward of, the Pyramids.

* The reader is referred to Map, No. VIII. for the explanation of this part.

MAP *to explain the* position *of* MEMPHIS, *and the* changes *in the course of the* NILE.



Published according to Act of Parliament by J. Kennett, Sept 2nd 1799.

J Walker sc.

The Antonine Itinerary gives 24 MP. between *Heliopolis* and Memphis; of which, 12 are taken up between Heliopolis and Babylon. See pages 163, 169. The former of these places is universally allowed by travellers to have been at *Matarea*, where, amongst other remains, an obelisk is yet standing: and the latter is presumed to have been at *Fostat*, or old Cairo, where the canal attributed to Trajan, led out of the Nile, according to the authority of Ptolemy; and where a canal still exists. These places are distant from each other about $8\frac{1}{2}$ G. miles in direct distance; answering to 12 MP. allowing the windings of the road.*

The site of Memphis, then, ought to be $8\frac{1}{2}$ G. miles from Fostat; or 17 from Heliopolis, *through* Fostat: consequently, its general position is on all hands admitted to be on the *south* of the Pyramids; since these are no more than three or four such miles to the south of the parallel of Fostat. And, following the authorities of Strabo and of Pliny, in addition to that of the Itinerary, the particular position may be ascertained. Here it is necessary to remark, that, as Memphis is said to have been a city of 150 stadia, or at least 14 English miles, in circumference; and that, it may probably have

* Besides the remains at *Matarea*, which are by no means equivocal, in respect of the fact which they indicate, there are other circumstances, which must be allowed in proof of the position. The fountain at Matarea is named *Ain Schams*, or the Fountain of the Sun. A modern town, situated so near to the site of the remains at Matarea, as that the skirts of the two are within a mile and half of each other, is named *Keliub*; which is no doubt the same name with *Heliopolis*, a little changed. The province is also named *Kelioubie*; and answers to the ancient prefecturate of Heliopolis; bounded by the Nile, and its Pelusiac branch, on the west and north.

The mound of Heliopolis, according to Dr. Pococke, is about a mile in length, by half that breadth. The obelisk, now standing, occupies nearly the centre of it.

Good water is obtained by digging to the depth of a few feet, at Matarea, and in the country between it and the foot of the hills; but towards the river, they go deeper to find the springs. (Pococke, Vol. vii. p. 24.) It is by no means usual to find good water by digging in Lower Egypt. It may be observed, that Heliopolis is not far from the *visible* base of the hills; and which, it may be supposed, extends much nearear, although covered with alluvion.

extended along the bank of the Nile, four or five miles, and inland from it, two, or more; it may be somewhat difficult to apply the distances given. It is, however, most probable that the measures in the Roman Itinerary, apply to the centre of Memphis; as it appears to have been the practice of the Romans to reckon the *Milliaria* from the centre of Rome. And again, the measures of Pliny and of Strabo, are likely to have been from the *extremity* of the city, towards the Pyramids; when they spoke of the space *between* the Pyramids and Memphis. Ptolemy, perhaps, reckoned his latitude and longitude from the centre.

Pliny says, that the Pyramids were six MP. from Memphis: Strabo, 40 stadia:* and as his stades are of 700 to a degree, the mean of the two accounts will be about $4\frac{1}{4}$ G. miles: and if to these be added $1\frac{1}{4}$ more to the centre of the city, we have an aggregate of $5\frac{1}{2}$ miles; which will intersect the line of distance from Fostat and Heliopolis, at a point somewhat less than three miles to the NNE of *Sakkara;* two from the *present* western bank of the Nile; and in a SE direction from the Pyramids.†

The accompanying Map has been constructed chiefly on the authorities found in Niebuhr and Pococke; but with some additions

* Pliny, lib. xxxvi. c. 12.: and Strabo, pages 807, 808.

† The Pyramids, denominated from *Giza*, are always intended by *the* Pyramids: and Herodotus mentions no others. There are pyramids at intervals along the edge of the rising ground, or sand hills, that skirt the western bank of the Nile, all the way from *Giza* to *Meduun*, a space of 26 G. miles. Next to the Pyramids of Giza, those of Sakkara are the largest, and also the most numerous.

M. Niebuhr places the Pyramids of Giza, in a direction of W 35 S from Giza: and the distance, according to the mean of the different authorities, is about seven G. miles. Most persons have placed them on a *less* southerly bearing: but it may be observed in M. Norden's Views, that the north face of the Great Pyramid is seen from *Deir Eteen*, which is half a league to the S of old Cairo, or Fostat: consequently, this could not be, if the Pyramids, as M. Norden says, lay WSW from Giza; as their sides front the four cardinal points. Probably he omitted to allow the variation; which was 12 degrees westerly, in 1762. (M. Niebuhr.) This allowance would bring it near to W 35 S.

from Norden, Bruce, and Savary; and is extended on a distinct scale, from the head of the Delta, to a point far above the site of Memphis. The positions of *Mokanan*, *Metrahenny*, and *Menf*, which are particularly connected with that of Memphis, are ascertained in part from the text and map of Dr. Pococke; from the report of Mr. Bruce, who also visited them; and from that of Mr. Savary, who collected his information from report only; but which agrees with the others. (See the Map, No. VIII. at page 494.)

It appears then, that *Memf*, *Menf*, or *Menouf*, which is rather a *position*, than a *village*, as perhaps referring to the site of the *latest* remains of Memphis, lies within half a mile (and that to the NE) of the position above pointed out, by the meeting of the two lines of distance from Fostat and the Pyramids.* And that this Menf is on the site of Memphis, there is little doubt; since Abulfeda describes the situation of that capital, which existed as a considerable city, so late as the seventh century, when Egypt was conquered by the Mahomedans. This Author says, that it stood at a *short* day's journey from Cairo: and as the site of Menf may be taken at 14 *road* miles from Cairo, it agrees very well.†

To this may be added, that M. Maillet, Dr. Pococke, Mr. Bruce, and Mr. Browne, agree that there are remains which prove the existence of a former city.‡

* M. Savary says, that *Menf* is two (French) leagues to the *southward* of the Pyramids. He speaks of Giza, as being on the *east*, the Nile and Menf, on the *south*; when looking from the Pyramids. Bruce remarks, that the Pyramids of *Giza* bore about NW, and those of *Sakkara*, SW, when he was at Metrahenny. As Menf lies at no great distance to the W of Metrahenny, this authority for Menf, agrees with that of Savary.

† Abulfeda's Egypt, article *Memf*.

‡ Dr. Pococke, Vol. i. pages 40 and 41.

"I conjecture this city (MEMPHIS) was about *Mokanan* and *Metrahenny*, which are rather nearer to the Pyramids of *Sakkara*, than to those of *Giza*; for at Mokanan I saw some heaps of rubbish, but much greater about Metrahenny, and a great

We may surely rest the proof of the position of Memphis, here: and it is very extraordinary how an idea ever came to be entertained, that it was situated at Giza. The words of Herodotus alone ought to disprove it, as well those which are quoted above, as in Euterpe, 99,

number of grottos cut in the opposite hills, &c.—I observed also a large bank to the southward of Metrahenny, running towards Sakkara," &c. P. 40.

" I saw near Sakkara a sort of wood of the *Acacia* tree: this and *Dendera* being the only places in Egypt, where I saw wood grow without art: and it is possible this wood may be some remains of the ancient groves about Memphis." P. 41.

He crossed the Nile at St. George's Convent, five miles to the S of old Cairo, and going on to the west, " came to the large village of Mokanan, with fine plantations of palm trees, and heaps of rubbish to the N of it. About two miles further to the SW, we arrived at Metrahenny; about this place also I observed several heaps, and a mound, extending a mile N and S, and then towards the Pyramids at Sakkara." P. 55, 56.

Mr. Bruce, Vol. i. p. 53.

" All to the W and S of Mohannan, we saw great mounds and heaps of rubbish, and calishes (canals) that were not of any length, but were lined with stone, covered and choaked up in many places with earth.

" We saw three large granite pillars, SW of Mohannan, and a piece of a broken chest or cistern of granite; but no obelisks, or stones with hieroglyphics; and we thought the greatest part of the ruins seemed to point that way, or more southerly.

" These, our conductor said, were the ruins of *Mimf*, the ancient seat of the Pharaohs, kings of Egypt.

" Memphis, if situated at Metrahenny, was in the middle of the Pyramids; three of them to the NW, and above threescore of them to the south." P. 56.

M. Maillet, p. 265.

" The most probable opininion is, that this superb city was built at the entrance of the Plain of Mummies; at the north of which the Pyramids are placed. The prodigious ruins which present themselves in this spot, will serve for a long time, as proofs of the greatness of that city, of which they are the remains; and the incontestible evidences of its true position."——

Again, he says, p. 274, that out of so many superb monuments, &c. " there remain only at present some shapeless ruins of broken columns, of ruined obelisks, and some other buildings fallen to decay, which one still discovers at the *bottom* of a *lake*, when the increase of the Nile is too small to furnish it with its usual supply of water. This circumstance has twice happened during the 17 years of my Consulship; par-

where he says, that " it was situated in the *narrowest* part of Egypt." Let any one cast their eyes on the Map; this description cannot accord with any place *below* the Pyramids of Giza.

It is very uncertain whether, in the time of Herodotus, the Nile ran exactly in the same bed it now does, in the part about Memphis. It is certain, that Pliny says, that the Nile ran at the distance of 4 MP. only, from the Pyramids; which seems unlikely, as Memphis was half as far again from them; although there is no question but that the Nile, in early times, ran between the site of Memphis and the Pyramids. This, however, must have been previous to the foundation of Memphis, and before the operation described by Herodotus; and which appearances abundantly justify. He says, Euterpe, 99, " MENES, as I was informed, effectually detached the ground on which Memphis stands, from the water. Before his time the river flowed entirely along the sandy mountain on the side of Africa. But this prince, by constructing a bank, at the distance of 100 stadia from Memphis, towards the south, diverted the course of the Nile, ticularly in the year 1697, when the surface of the lake sunk five or six coudees, and discovered at the bottom of this vast reservoir, a kind of city, which excited the admiration of every one. This lake can never be dried up, or drawn off again, as before, because they have neglected to keep up the canal, which served to drain off the water. There are also some heaps of ruins in the plain, of three leagues in width, that separates the northern from the southern Pyramids; and in which, this ancient city extended, from the borders of the lake, towards the Nile, eastward. These are the faint traces of so much magnificence," &c.

Mr. Browne, page 173.

——" I visited the pleasant site of the ancient Memphis, on the left bank of the Nile, about two hours to the south of *Kahira*, in a plain above three miles broad, betwen the river and the mountains. The land is now laid down in corn, with date trees towards the mountains. Nothing remains except heaps of rubbish, in which are found pieces of sculptured stone. The spot has been surrounded with a canal, and seems every way a more eligible situation than that of Kahira (Cairo). Its extent might be marked by that of the ground where remains are dug up, and which is always overgrown with a kind of thistle, that seems to thrive amongst ruins. It is most conveniently visited from the Coptic Convent called *Abu Nemrus*."

and led it, by means of a new canal, through the centre of the mountains. And even at the present period, under the dominion of the Persians, this artificial channel is annually repaired, and regularly defended. If the river were here once to break its banks, the town of Memphis would be inevitably ruined. It was the same Menes, who, upon the solid ground thus rescued from the water, first built the town now known by the name of Memphis, which is situate in the narrowest part of Egypt. To the north and the west of Memphis, he also sunk a *lake*,* communicating with the river, which, from the situation of the Nile, it was not possible to effect towards the east."

From this description (a part of which, however, is obscure), together with the description of the ground, in Dr. Pococke, and the aid of our own observations, on other capital rivers, it appears very clearly that the Nile in ancient times, ran through the *Plain* of *Mummies*, near Sakkara; and thence along the foot of the rising ground, on which the Pyramids of Giza stand; and finally, in the line of the canal of *Behbeira*, into the bay of Abukeir, or Canopus. This appears more particularly, from the following remarks of Dr. Pococke.

He says (Vol. i. p. 40, 41.) that " he saw several large lakes to the north and west of Metrahenny;" and that he thought it probable that " the canal of the Pyramids, and the western canal, some miles beyond Metrahenny, and which at present runs under the hills, may, at least in some parts, be the remains of the ancient bed of the Nile." And again, (page 42.) he describes a great causeway of 1000 yards in length, and 20 feet wide, built of, or faced with, hewn stone, extending across a *hollow* part of the country, and terminating at the distance of a mile to the NE of the Pyramids, where the ground *begins to rise*.†

* Perhaps for *lake*, we should rather read *canal*. The old bed of the Nile would leave lakes enough, probably: a canal would have been useful, and such is found there at this day.

† See again the Map at page 494.

He further says, " the country over which the causeway is built, being *low, and the water lying on it a great while,* seems to be the reason for building it at first, and continuing to keep it in repair." There are included in its length, two bridges, each of about 12 arches of 20 feet wide, on piers of 10 feet; and the bridges are separated by a portion of the causeway. What so probable, as that this hollow part, of 1000 yards in breadth, which is so deep in *all* places, as to require a causeway, and in *some,* as to require bridges which occupy more than 700 feet of space, was the ancient bed of the river? The lakes, too, on the N and W, of Metrahenny, are in the line of the same canal: and it appears probable, that advantage was taken of the hollow ground formed by the remains of the ancient bed, in the construction of the canal; whose course seems throughout, to be that which the Nile would naturally take if no impediment had presented itself.* And on the whole, we conceive that the fact mentioned by our Author, respecting the change of course of the Nile, may be understood in the following manner:

That the Nile, having gradually raised its bed too high to allow the *whole* of its waters to run with freedom in the *old* bed, along the foot of the western hills, sought a new one for a *part* of its waters, in a lower place, nearer to the centre of the valley; and thus, by a division of its waters, formed an island. From the date of this separation, the original cause still continuing to operate, the old channel gradually filled up, whilst the new one, in like manner, became deeper. A proof of the length of time required to fill up such a channel (if *ever* it be *completed* at all), is, that the deserted bed just mentioned, remains visible, although the change happened

* M. Niebuhr also remarks these bridges and causeway, Vol. i. p. 154, 155. He regards the whole work, as of Mahomedan origin; and estimates the length at about 1600 double paces, or about a mile and half. He also calls the hollow space, across which it is built, a "*considerable branch* of the Nile."

M. Norden has introduced the causeway and bridges in his View of the Pyramids, Plate XLII. This, and the Plan XLIII. give a very good idea of the ground on which the Pyramids stand, &c.

before the foundation of Memphis! It must however be considered, that the mound, by preventing the free access of the Nile water, charged with its mud, has doubtless retarded the operation, in this instance.

It may be conceived, that the separation took place, at, or above *Dashour*, which stands about 100 stadia above the *centre* of Memphis; and that the mound described by Herodotus, was thrown across the head of the ancient, or western channel, so as to point the course of the great body of the Nile, into the new channel. M. Savary, indeed, (Vol. i. Letter 26.) reports that the remains of such a work actually exist, between Sakkara and Dashour: but it does not appear that he *saw* it; nor does he quote his authority. The fact is, however, very probable.

According to these ideas, we may conceive that Memphis might have been in some danger, by the breaking of the mound:* but by no means can such danger be understood, had the Nile been turned from the valley named *Bahr-bela-ma*, into that of *Memphis*: for had the Nile ran in any other valley than that of Memphis, how could the ground of that city have been previously covered by the waters of the Nile? By the expression of "turning the course of the river through the *centre* of the mountains," should therefore most surely be meant, into the *middle*, between the two chains of hills that form the proper valley of Upper Egypt; instead of the course it before held along the foot of the sand hills, that form the western boundary of it.

This seems to be the true meaning of our Historian, or of those who communicated the information to him: and this is rendered the more probable, by the expression, that "before the time of Menes, the river flowed *entirely* along the sandy mountain on the

* Mr. Browne says, that "of the fact of Memphis having been *surrounded* by water, some evidences appear even at this day. Parts of the banks of the canal are yet visible towards the mountains, and at the extremities of the ground, where ruins are distinguishable." Page 173.

side of Africa." What can be understood, but the line of sandy hills, which are known to extend by Sakkara, and along the course of the Nile?

It has certainly been supposed, by some persons, that the Nile, at an early period, passed to the NW, through a hollow space or chasm, in the just mentioned hills; and thence either through the lake Kairun, or by a more direct passage, into the gulf of the Arabs. Mr. Browne and Dr. Pococke each remarked a *chasm* in the hills; the former near Sakkara, the latter nearer to the lake Kairun:* but neither of these are ancient beds of the Nile; for Mr. Browne informs the Author, that "there is absolutely nothing resembling a *course for water*, through the hills between Bedis and Tamieh." This remark is of great importance to our subject, as it tends to remove the doubt, (if any remained) respecting the meaning of Herodotus; and to shew that the change which he had in contemplation, was merely from one part of the valley to another.

The *Bahr-bela-ma* intended by Mr. Browne, p. 170, appears to be a part of the ancient communication (whether natural or artificial) between the canal of Joseph and the lake Kairun; leading out of the former at *Illahon*, (the only communication, indeed, that has ever existed between it and the country of Faiume) but which, in its course towards the lake, now passes more to the west, leaving the bed of the Bahr-bela-ma dry.

As *Bahr-bela-ma* (or river *without water*) appears to be a general term for a deserted channel of a river, it may be conceived that the one just mentioned, has no connection with the *supposed* bed of a river situated to the west of the Natron lakes. Mr. Browne says, "on the coast, in going to *Siwa*, I recollect no place where a channel could possibly have issued, unless it be near the bottom of the gulf of the Arabs; on the east of which gulf the ground is elevated; but to the S, or S a little west, considerably lower; but hardly enough

* See Dr. Pococke, Vol. i. p. 56: and Mr. Browne, p. 167: also the Map No. VII, at p. 440.

to persuade me that the river could ever have had its egress at that place; nor are there any visible marks of water having flowed there."

Wheresoever such a river as the Nile has flowed, there ought to have been marks of alluvion; and particularly near the sea. No such, however, appear: on the contrary, the channel of the Bahr-bela-ma is said to be formed in part of petrified substances. And with respect to the channels through the sand hills, their levels appear to be far above that of the present river, whose bed must once have been a vast deal lower than it now is. We return to the subject of Memphis, and the head of the Delta.*

Having thus established the site of the centre of Memphis, which falls in the parallel of 29° 53′† and its northern skirt in about 29° 55′; (being 8 minutes of latitude south of Cairo, 18 south of the point of the Delta; which latter is fixed by the celestial observation of M. Niebuhr, in 30° 13′); we proceed to examine the ancient authorities for the position of the point of the Delta, in respect of Memphis and Heliopolis

* It is difficult to believe that the course of the Nile ever lay through the lake of Kairun (*Moeris*): first, because the lake is said to be shut up by elevated lands: and secondly, because it is probable, that in early times, the bed of the Nile was too low to admit its waters to flow into the hollow tract which now contains the lake.

Concerning the lake Moeris, the ancient stories are so improbable, that one naturally looks for a more rational account of its formation. Might not the opening of a canal for the purpose of filling the hollow space which now contains the lake, be the great work of forming the lake *Moeris*? They might have built the edifices described by Herodotus (Euterpe, 149), previous to the final influx of the water. The circumstance of the water flowing alternately into the lake, and back again into the Nile, according to the seasons, is perfectly reasonable; since the passage to it was narrow, and the expanse of water very great. Pococke reckons it 50 miles in length by 10 wide: Mr. Browne says, (p. 169.) the length may be between 30 and 40 miles; the breadth nearly 6. "Nothing (says he) can present an appearance so unlike the works of men—On the NE and S is a rocky ridge, in every appearance primeval."

† Ptolemy allows 29° 50′.

Herodotus, unluckily, is silent, concerning this matter; but it may be inferred from circumstances, that in his time, the point of the Delta was nearly *opposite* to Heliopolis; of which, more will be said, presently. Had he fixed it positively, it would have given an idea what change, or whether any material one, took place, between his time, and that of Strabo; an interval of between four and five centuries.

Strabo says, (p. 807.) that the head of the Delta was three *schoenes* below Memphis; and these we regard as equal to 12 MP.* Pliny says, (lib. v. c. 9.) 15 MP. Taking these respectively, at 10 and 12 G. miles, we come next to Ptolemy, (Africa, Tab. III. Append.) who allows $13\frac{1}{2}$ such miles, from the centre of Memphis; or, reduced to the same point with the others (the northern skirt, as may be understood), $11\frac{1}{2}$. Here, the utmost given distance of the head of the Delta from Memphis, is 12 G. miles; which is 6 G. miles, or 7 British, *above* the place where it is at present; or, taking a mean of the different reports, nearly 8. There is every reason to suppose, that in the time of Strabo, it was at least as high up as Heliopolis: but in order to make it agree with his report of the distance from Memphis, it ought to have been at the head of the canal of *Keliub:* which is nearly 10, from the present head of the Delta.†

The same author, in his description of Heliopolis, takes occasion to say, page 806, that Eudoxus, who studied astronomy there, had an observatory near it; which observatory was also near to the city of *Cercasora;* at which place the Nile, according to Herodotus, (Euterpe, 15 and 17,) separated, in order to form the Delta.

* See page 19 of this work, where the schoene is fixed at four Roman miles; or 40 stadia nearly.

† The head of the Delta was found by M. Niebuhr, who took an observation of latitude there in 1761, to be in 30° 13′; whilst Cairo was in 30° 3′. Heliopolis, by reference to the last place, lies in a little above 30° 7′. See Niebuhr, Vol. i. p. 46, 80 and 91.

Although Herodotus describes the city of Cercasora (or Cercasoras) to be opposite to the head of the Delta, yet he does not say *how* it was situated, in respect of Heliopolis. But as he says that the Delta commenced at Cercasora; and as this place is so satisfactorily fixed by Strabo, in a position opposite to Heliopolis, it must be concluded that the head of the Delta was in much the same place in the time of Herodotus, as of Strabo; both of whom, wrote from actual observation. However, a slight variation would have passed unregarded: and although Herodotus might have seen the separation at a point a little *above* Cercasora, and Strabo somewhat *below*, no distinction might have been made; and thus, a variation of a mile, or two, might have taken place, without any particular remark. Cercasora too, might have extended a great way along the river bank.*

It is worthy of remark, that Diodorus says (lib. i. c. 4.) that Memphis was founded *at* the place of separation of the two branches of the Nile: but whether this relates to the separation above the city, which was done away by the mound; or to a separation lower down, cannot be ascertained; but the assertion is a remarkable one, and had very probably a foundation in truth, considering how long

* Strabo also remarks, (p. 8c6.) that the prefecturate of Heliopolis occupied the Arabian, and that of Litopolis, the Lybian, side of the Nile. Ptolemy has the same arrangement; with the city of *Latone* for the capital of the latter. In the Antonine Itinerary is found *Letus*, at 20 MP. to the northward of Memphis, or about $14\frac{1}{2}$ G. miles, direct. If this distance is to be reckoned from the centre of Memphis, Letus will fall nearly opposite to Heliopolis; that is, in the position assigned to Cercasora. It appears not improbable, that *Letus* or *Latone* may have succeeded to *Cercasora*, on the same, or nearly the same site, before the date of the Itinerary; for Letus is not mentioned by Strabo, although the prefecturate is; and it may be conceived, that he intended Cercasora for its capital.

Ptolemy places Latone *below* the head of the Delta; and the boundary of the prefecturate, of which it is the capital, *at* the head of the Delta; whilst the prefecturate of Heliopolis is extended above it.

These circumstances furnish at least some *presumptive* evidence in favour of the change of position of the head of the Delta.

an interval passed, between the foundation of Memphis, and the time when the Delta had its commencement opposite to Heliopolis; and that in 1800 years it has advanced 7 English miles downwards.*

The mode, by which this downward movement of the derivations from rivers is effected, is well understood, and is of two kinds; the one, exceedingly slow, and gradual; the other, more sudden, in respect of its change of place, although the means by which the preparation is accomplished, may likewise be slow.

With respect to the first, it must be observed, that in all great rivers, one branch may be regarded as the main trunk, or river, and the rest as derivations; they being always of less bulk and depth than the former, and also separating from it, with an *obliquity* of course; or *elbow*. It is the nature of all water courses that run through alluvions, and which have also a winding course, to form a *flat* shore on the *projecting* side of each elbow, and a steep one on the *indented* side: the first, being occasioned by the slackness of the current, on the projecting side, which allows the water to deposit its sediment, and thus to form a shelving bank, with shallow water adjacent to it; the latter, by a strong current and deep water, which insensibly corrodes the indented bank. It will easily be understood, that the constant deposition on the shelving side, will cause the parts of it to rise successively to the surface of the water, and to become in time, *firm* land; and that it must of course compel the stream to borrow on the opposite side, in order to supply the deficiency in its bed, caused by the encroachment of the new land. And hence, the channel of the river must ever be verging towards the indented side.

* Had the apex of the Delta always remained in the same place, Memphis should indeed be looked for at Giza, opposite to Cairo; where Dr. Shaw, M. Norden, and some others place it. But then it would not have been in the *narrowest* part of Egypt; nor could vessels from Naucratis have passed by the Pyramids in their way to it.

Now, to apply this to the outlets of the branches of rivers, it is to be considered, that the *upper* angle of separation being in the predicament of the projecting part of the bank just mentioned, the shore will constantly receive an increase there; and that, in consequence, the opposite side, that is the point of the Delta, (or island), must wear away in the same proportion: for, most infallibly, the weakest part of the stream will ever be at the upper point of separation; because the body of a stream cannot suddenly change its course, to turn round the point, but can only effect its change of direction, gradually. So that the water will be, comparatively, still, near the point; and will deposit its sediment in that very place: and thus, the outlet, in effect, is removed lower and lower down, by very slow degrees.*

This gradual change in the position of the outlet, has the natural effect of producing, in time, an entire change in the general direction of the arm of the river, that helps to form the Delta: for, as the direction of the upper part, must gradually become more and more oblique to that of the main river, it at last becomes *too oblique* to the general slope of the alluvion, (which is regulated by its floods,) to run any longer as it ought, for want of declivity: and

* See the account of the Ganges and Burrampooter rivers, in the Appendix to the Memoir of the Map of Hindoostan; and in the Philosophical Transactions for 1781.

Here it may be proper to remark, (by the bye), that as the outlets of rivers, in alluvial tracts, have a tendency to form *obtuse* angles at the place of separation; so the confluences of such branches have a direct opposite tendency; as they form very *acute* angles at the point of conflux: it being the effect of the mutual repulsion that takes place on the collision of the two streams. This operation will produce a *shallow* at the angle where the water is either *still*, or moves with little velocity. If the *adjunct* stream bear any proportion to the principal one, it will give a new direction to it, partaking more of that of the adjunct.

It happens sometimes, that the acute angle just mentioned is so small, that the confluent rivers appear like one, long before they actually join. M. Condamine says of the river Negro, that for several leagues, it would be taken for an arm of the Amazon, but for the different colour of its waters.

then it is, that the stream, thus become languid, and more particularly, during the falling state of the river, deposits out of measure; and raises its bed so high, that the next year's flood seeks an easier passage, at least for a part of its waters, at a *lower* place. And this is the *sudden* operation alluded to, above, as the second of the modes, by which the head of the Delta is removed lower down.

In order to render the latter operation more intelligible, it will be proper to advert to what has been said concerning the *slopes* formed by the overflowing of the rivers, in page 493. It has been said, that the crest of this slope, is at the river bank, and that it declines towards the country; so that the several diverging branches of a river, have the effect of forming the Delta into alternate *ridges* and *hollows*. Whensoever therefore, the branches of a river corrode and destroy their banks, which constitute the higher part of the slope, a *part* of their waters, at least, will throw themselves into the hollows; and gradually form them into new channels; which channels, by the direction of the slopes, must needs be parallel, or nearly so, to the old channels: so that every change will be productive of a loss of ground to the Delta.

The period required for this operation, is however of great length; for it may be conceived that the Canopic branch has not varied, otherwise than *partially*, since it quitted the line of the canal of *Babeire*; which seems to have been before the days of Herodotus. There appears to be little doubt, that whensoever any great change happens, it originates in some cause existing *above*, and not *below*; that is, at the *outlet* of the branch from the main river: and that, being once thrown out of its ancient bed, in the part above, it often happens that it cannot regain its bed at a lower point, for want of a sufficient declivity to give velocity to the stream.

It is said that the *artificial* canal of *Menouf*, which leads obliquely from the Damietta branch, at five or six miles below the head of the Delta, into that of Rosetta, at a place nearly 30 miles below the same point, is now on the increase, whilst that portion of the

Rosetta branch which lies parallel to the same canal, is grown very shallow, and continues to do so.* It will probably happen then, that by degrees, the upper part of the Rosetta branch will be filled up (for this operation generally goes on, when begun); and the canal of Menouf will become the upper part of the Rosetta branch. This, as one step, would remove the Delta five or six miles lower down.†

It appears unquestionable, that a like change took place between *Om Waratik* and *Om Dinar*,‡ about five miles above the *present* outlet; although some other cause than the want of declivity must be assigned; probably by gradual additions. M. Niebuhr, (who is convinced that the head of the Delta has changed its position), says that the channel between the just mentioned places, and which is eight or nine English miles in length, is not an artificial one, but

* It appears by the letter of M. Perrée in the Intercepted French Correspondence, that he was compelled to leave the largest part of the flotilla, at a place 13 leagues below Cairo (or above *Terane*) after the middle of July (1798); that is, after the Nile had begun to rise. He says that only vessels of five feet (French) draught of water, could pass.

† Since the above was written, Mr. Browne's publication has furnished the following very curious facts and observations, respecting these rivers:

In May 1792, the water was so shallow between Terane and Cairo, that a small boat (a *Canjia*) could with difficulty pass. Page 44.

In November 1796, "The waters of the Nile having almost abandoned the eastern branch, which leads to Damiatt, pursuing the more direct course of the canal of Menûf, after a neglect of many years, it became necessary to apply a remedy.—The purpose was at length effected, by driving piles, and the river returned to its former course." P. 156.

Speaking of the *Papyrus* plant in the quarter of Damietta, he says, "Of late years, the channel of the Nile, which ought to flow to Damiatt, pursued the straighter course offered to it by the canal of Menûf, deserted its bed, and left access to the sea water. Hence, the plants of the Papyrus, &c. were deprived of the prolific influence of the Nile, and expired in the noxious effluvia of a marine marsh." Pages 353, 354.

‡ Edrisi mentions *Om Dinar*, *Daraue*, and *Akass*, which are found in the Map of M. Niebuhr, as places existing in his time near the head of the Delta, but without any indication of their relative position to the head of the Delta.

is very wide, and during the time of high Nile, very deep. Vol. i. p. 84.

Thus far the removal of the outlets of rivers, or the heads of Deltas, downwards, is occasioned by the immediate operation of the current of the river, and its depositions: and, it might be supposed, that if no other cause operated to prevent it, the river would restore itself to its ancient state: and that, whatsoever cause had originally occasioned it to divide, at a certain point, would in time occasion it to break out again, there. But here, we conceive that the *extension* of the greater slope, *downward* (as spoken of in page 486), by raising the level of the country, prevents the return of matters to their original state.

It appears then, that the heads of deltas move downwards:* and that the consequence of this change, is, a contraction of the Delta itself, on the side towards the sea: because that, as the outlets of the branches of rivers, have a perpetual tendency to move downwards, so that movement has a tendency to produce an obliquity of course, which destroys the velocity of the stream, and compels it to seek a line of greater declivity; which line can only be found within the former Delta. And finally, that the extension of the *greater* slope, downwards, prevents the branches from breaking out again, in a higher situation. And hence it may be supposed, that the state of a *delta*, is that of an *imperfectly formed* country: and that the progress of matters towards completion, is, that of the river forming itself into one channel. That is, from a *mud* bank, it becomes a *marsh*; then a field, intersected by *drains*, and *deeply* inundated, at particular periods: and finally a firm field, subject to *slight* inundations, but without any natural derivations from the river. We do not presume to say, under which of these circumstances, the lands

* During the Author's residence in Bengal, the head of the Jellinghy river, or western arm of the Delta of the Ganges, moved lower down. It was also the case of other outlets and inlets, of the branches of the Ganges.

are best fitted for the use of man, but merely remark, that the changes are such.*

Before we dismiss the subject of alluvion, it will be proper to say a word more, concerning the gradual rise of the soil, by deposition.

The instances that might be given in proof, are very numerous, in every quarter; but we shall select a few, only. The obelisk yet standing, at Heliopolis, is immersed more than $5\frac{1}{2}$ feet above its *base* (meaning the level of the ground; for it is not known how deep it may go into the ground), in the periodical inundation of the Nile. Now it cannot be supposed that Heliopolis stood originally on ground, that was subject to be overflowed: on the contrary, Strabo says, page 805, that it stood on a *great mound.* The height of the mound, is not mentioned, but it must probably have been several feet above the inundation; and now the inundation is several feet above the mound: unless, indeed, Strabo meant the dam or dyke that inclosed it: and even the necessity for that dyke proves the rise of the general level.†

Another instance occurs in the digging out of the *sand*, the marble columns near Rosetta; mentioned by M. Niebuhr. But the fact is much more pointedly established, by what Herodotus says, concerning the level of the temple at Bubastis; and by the necessity of raising the ground of the different cities of Egypt.

He says then, that during the reign of Sabacus, King of Ethiopia, (who possessed Egypt 50 years,) the ground on which the cities of Egypt stood, was more and more elevated, by manual labour: and that, although they were somewhat raised under the reign of Sesostris, by the digging of canals, they became still more so, under

* Mr. Browne gives this general idea of the Delta, p. 352, "The reader may conceive a vast plain, intersected in all directions, by minute channels, (the canal of Menûf being almost the only important stream,) by which, and by pumps, the interstices are watered, and brought to the utmost fertility."

† Possibly, the inundation may have found its way within the dyke, through the entrances described by Dr. Pococke, page 23.

the Ethiopian. Moreover, this was more particularly the case, with the city of Bubastis, in which stood a famous temple of Diana. This temple, he observes, was in the centre of the town, and in every part, a conspicuous object; its situation having never been altered, although every other part of the city had been elevated; Euterpe, 137, 138.*

Hence we collect that the gradual elevation of the soil of Egypt, was such, as that it was necessary, at that early period (for it was so early as the fifth reign, after the building of the great pyramids), to raise the ground of the cities; which, no doubt, had been originally placed in elevated situations. But by what is said concerning the mode of raising the ground, as well as the appearances that now present themselves, it may be understood, that in *most cases*, the operation was that of raising a lofty dyke round the existing city: and not that the houses were generally taken down, in order to rebuild them on higher ground.

Dr. Pococke remarks that the site of Heliopolis, as well as those of the temple of Isis, near Busisris; and of another city which he took for *Bubastis*, but which can be no other than *Athribis*;† were encompassed by high mounds of earth. See Vol. i. p. 21, 22, 23. Mounds for the villages and towns, are universally raised, in the lower parts of Bengal: and they often consist of one long narrow street, only. One of the mounds seen by Pococke was about a furlong in breadth.

These particulars appear to be perfectly decisive, respecting the

* The description of the temple is worth attention. Its remains do not appear to have been visited by modern travellers. It would be curious to know how far the description of the ground plan of Bubastis, by Herodotus, agrees with modern appearances.

† The site in question is very close to Trieb, or Atrib, and on the Sebennitic branch: whereas Bubastis stood on the Pelusiac branch, which was also called the Bubastic. M. Niebuhr speaks of the remains in question, as belonging to *Athribis*; Vol. i. p. 79. He names the place *Benha Assel*: Pococke, *Benelhassar*.

gradual rising of the soil. The temple of Isis stood a little below the centre of the Delta: Athribis about one fourth part down, and Heliopolis opposite to the head of it: so that the operation went on every where. But the degree in which it rises, any more than the extent formed in the sea during any given time, must remain undetermined. It may, however, be concluded, that, in early times, the extension of the alluvion was more rapid in proportion to the elevation of the soil, than in latter times.

It is highly probable that those parts of the city of Memphis, which lay very low, have been covered with deposition: that the lake spoken of by M. Maillet, and which had ruins at the bottom of it, was a part of that ground, surrounded by a dyke: and that the country *without*, was raised by deposition, whilst the *inclosed* ground remained a hollow; and finally, that the inundation flowed over it, and formed it into a lake. (See notes to p. 498.)

We might adduce abundance of instances from other countries. When the great reservoir was dug in the city of Calcutta, whole trees were found at a great depth. At Utrecht, at the side of the ancient bed of the Rhine, edifices have been found at a great depth below the present level.*

It may be proper to add a few words also, concerning the overflowing of rivers, in order to shew, that, nothwithstanding the continued rising of the soil, the river must still continue to overflow.

All rivers and streams must at times overflow, because there is no provision made in their beds, for a *sudden* increase of water: for this sudden increase being immediately diffused over the country, can have no effect in deepening and enlarging the river beds. But where the situation admits of a regular system of dykes, to retain

* Dr. Pococke found the level raised, in almost every place in Upper Egypt, where there are buildings, whose proportions help to shew it. This appeared more particularly at Thebes. But there are no means of knowing, whether it be occasioned by rubbish, by drifting of sand, or by deposition; or whether all the three may not have had a share. The Doctor thought the ground had risen 17 feet, at Thebes.

the surplus waters, the bed will doubtless be enlarged beyond its natural size. This operation, however, will prevent the general surface of the land from rising; and hence it is, that mankind, by a too hasty occupation of alluvions, and by tampering with the courses of rivers, have not only entailed endless expence, but brought destruction on their posterity, on occasion of a higher land, or sea, flood, than ordinary.* Under these circumstances, the whole river bed will rise by degrees, above the surface of the country, in places remote from the sea: and the dyke must be gradually raised; as well as strengthened, to a degree proper for resisting the pressure.

Mr. Browne, who travelled into Upper Egypt, speaks in the following manner concerning the inundations of the Nile, generally; page 64.

"In Upper Egypt, the Nile is confined by high banks, which prevent any inundation into the adjacent country. This is also the case in Lower Egypt, except at the extremities of the Delta, where the Nile is never more than a few feet below the surface of the ground, and where the inundation of course takes place." Again he says, of the inundation in the Delta, page 352, "As to real inundation on the rise of the Nile, that must be regarded as confined to a *small space*, bordering on the sea." It appears from the dates, that Mr. Browne did not travel during the season of the floods of the Nile, and therefore he must have heard this from others: and we suspect that his information has not been correct. In respect of the Delta, it might relate to the neighbourhood of the principal branches of the river, where the ground is the most raised by depo-

* Thus, the Zuyder Zee, or sea of Amsterdam, has been increased chiefly by breaches of the sea, from a small lake, to its present size. It is probable that the admission of so large a portion of the waters of the north branch of the Rhine, into the bed of the Isel, may have originally increased the lake, and prepared the ground for some of the changes that have followed. It was Drusus, the Roman general, who cut a canal from the Rhine to the Isel, between Arnheim and Doesburgh.

sitions: for we have not only seen the like in other countries, but have heard that inundations do really take place over the *lower part* of the Delta, generally, though in a greater degree on the eastern, than on the western, side.

As to the question of Upper Egypt, it can only be said that authors in general either describe an inundation, or leave us to understand that an inundation does take place there; although some of them admit that it is not universal. Some of the passages that occur in Pococke and Norden, are very pointed, as may be seen in the notes; and the existence of an inundation appears to admit of no doubt.*

M. Norden also speaks of a dyke generally in Upper Egypt, and describes it in his plan of a part of the ground of Thebes. And from all the circumstances considered, it appears probable that the

* Dr. Pococke says, p. 79, "We passed several little lakes of water, made by the *overflowings* of the Nile." This was near Achmim, in Upper Egypt. In page 197, speaking of Upper Egypt generally, he says, "If the *hills* are above four or five miles from the Nile, they have villages in the middle, between the hills and the river, which are built on raised ground, where the Nile *overflows*." What follows, in the same place, is curious in respect of the inundations in Lower Egypt.

In p. 199, he says, "It seemed visible to me, that the land of Egypt is lower at a distance from the Nile, than it is near it; and I imagined, that in most parts it appeared to have a gradual descent from the *Nile* to the *hills*; that is, to the foot of them, that may be said to begin at those sandy parts, a mile or two distant from them, which are gentle ascents, and for that reason *are not overflowed* by the Nile." Here, from the circumstance of the *hills*, Upper Egypt must of course be intended; and it is implied in the strongest manner, that the space between the crest of the banks and the base of the hills, is overflowed. At the same time he says, in p. 198, and 200, that *many parts* of Egypt are *not* overflowed.

M. Norden, speaking of the country *above* Cairo, Vol. i. p. 57, says, "These canals they carry quite to the mountains—so that when the Nile increases, its water enters into the canals—when the river has swoln to its pitch, and *diffused* its waters on the surface of the ground, they then think of retaining them for some time, in order that the earth may be sufficiently soaked. For this purpose they make banks, which hinder the water from *flowing off*, &c. At length, when the earth is sufficiently moistened, they cut the bank to facilitate the *removing off of the waters*."

present inundation is effected by means of canals that lead from the river towards the hills; and that the use of the grand dyke is to command the period of the inundation, which might prove inconvenient, if left to operate casually. We are told of various canals, that are opened at different periods, depending on contingencies. It is, however, a subject concerning which one naturally wishes to receive more information. It may be remarked, that whatsoever might be the state of the case at present, the *slope* described by Dr. Pococke, from the margin of the river bank, to the foot of the hills, plainly proves that inundations have regularly taken place in former times. This is the slope spoken of in pages 493, and 509; and which is found in the course of every river that runs through an alluvial tract.

SECTION XIX.

CONCERNING THE NUMBER, ORDER, AND POSITION OF THE BRANCHES OF THE NILE, ANCIENT AND MODERN: WITH VARIOUS PARTICULARS RESPECTING THEM.

Description of the Branches and Mouths of the Nile, *by Herodotus*—*Doubts respecting some of the inferior Branches.*—Seven *navigable Mouths allowed generally by the Ancients.*—*Dimensions of the Delta well known to them.*—Watch Tower *of* Perseus.—*Number, Order, and Position of the Branches and Mouths of the* Nile—CANOPIC, *the most western—much ancient History belonging to it, and the City of* Canopus—*the latter no less celebrated as the modern* Abukeir, *the Scene of the glorious Battle of the* NILE.—*Sites of the ancient Cities of* Metelis, Naucratis, *and* Hermopolis, *ascertained.*—*Error of modern Geographers, respecting the Lake* Mareotis.—Naucratis, *the ancient* Emporium *of Egypt.*—Greek *Establishments in* Egypt.—*Change of Course, of the western Branch of the Nile.*—BOLBITINE, *or* second *of the ancient Branches, become the first.*—SEBENNITIC, *or* third *Branch; now the Outlet of the Lake* Brulos—PHATMETIC, *or* fourth *Branch*; now *the* Damietta, *or eastern Branch*—MENDESIAN *and* TANITIC, *anciently the* fifth *and* sixth *Branches*; *now only Outlets to the Lake* Menzala—PELUSIAC, *the* seventh *and last: now a periodical Stream, only—its ancient Course traced.*—*Temple and City of* Onias.—*Situations of ancient* Jewish *Establishments in Egypt, known—that of* Onias *fixed.*—*Lake of* Menzala, *anciently* Tanis.—*Remarks on the Lakes and Hollows, formed in the Alluvions of Rivers.*

IT has been said that our Author describes three *natural* branches of the Nile, as existing in his time: and which separated at Cercasora, situated at six or seven miles above the *present* head of the Delta.

At this point, says he, Euterpe, 17, "it separates itself into three branches; that which directs itself towards the east, is called the *Pelusian* mouth; the *Canopic* inclines to the west; the third, in one continued line, meets the point of the Delta, which dividing into two parts, it finally pours itself into the sea. This arm is equally celebrated, and not inferior in the depth of its waters; it is called the *Sebennitic* mouth, and this again divides itself into two branches; one is called the *Saitic*, and one the *Mendesian* channel; both empty themselves into the sea. There are two other mouths, the *Bolbitinian* and the *Bucolic*; these are not produced by nature, but by art." He also speaks (in Euterpe, 10.) of "*the five* arms of the Nile;" but it is certain that he has *enumerated* no less than *six*; and later authors, *seven*.*

As we learn from Strabo, page 802, that the *Tanitic* mouth had also the name of *Saitic* given it, no difficulty arises concerning the identity and positions of the several branches above described; the *Bucolic* excepted. But Herodotus seems to have been guilty of an omission in stating *two* mouths only, as the number of subdivisions of the Sebennitic branch: and it is probable that he should have said *three*. For he has in fact described the Sebennitic mouth, most clearly, in saying that it met the point of the Delta; that is at *Berelos*, or *Brulos*, where also, the Sebennitic mouth of Strabo and Pliny, must be looked for. Therefore, he ought, probably, to have said, that besides the *embouchure*, properly named Sebennitic, it formed two others; the Mendesian and Saitic, (or Tanitic). For as, after he had spoken of "the *five* arms of the Nile," he enumerates *six*, it is probable that he had not a distinct idea of the subject.

* Pliny, lib. v. c. 10, speaks of eleven mouths of the Nile, besides four others which he calls *false* ones: but he allows seven *principal* ones only; agreeing thus far with Strabo.

The reader is referred to the Map No. VII, page 449, for what relates to the Delta of the Nile; and for the general course of this river through Egypt, as well as the countries bordering on Egypt, to No. IX.

Nor is it extraordinary that a stranger should have been ill informed, concerning such a matter, when the Europeans settled on one of the arms of the Ganges, remained in total ignorance respecting the mouths of that river, for near two centuries. *Seven* was the number of navigable mouths of the Nile, according to the ancients in general.

The *Bucolic* cannot be placed: and he omits the *Phatmetic*, which is known to be represented by the modern *embouchure* of Damietta. This may possibly have been the Bucolic.

Concerning the smaller subdivisions of the branches, near the sea, it is said by Strabo (page 801), that many of them were navigable for boats: so that they may be regarded in the nature of creeks of the sea, rather than as the mouths of rivers: and it may be sufficient for the present purpose, to regard the *three* branches above specified, as the *proper arms* of the Nile, in the time of our Author; and which were subdivided, near the sea, into several others. And unless we were to suppose, that the Nile carried a greater body of water in ancient times, than in the present, one does not easily comprehend how three branches could be so copiously supplied, as the descriptions of our Author seem to imply.*

It is true, that the ancient ships were very flat, and required but a small depth of water, compared with the modern ones: and this makes a great difference in the question. The Canopic branch, whether from its greater depth, and more convenient position, or from political reasons, was originally "the *sole emporium* of Egypt,"

* Mr. Browne's general description of the Nile, and its banks, merits attention, and may be easily referred to, in pages 63 to 66; as also in 352. In particular he says, that "the greatest breadth of this majestic river may be computed at 2000 feet, or about $\frac{1}{3}$ of a geographic mile. Its motion is even slower than the Thames, and does not exceed three miles per hour." This rate has been observed to be that of the Ganges and Burrampooter (in Phil. Trans. for 1781); and perhaps is that in general, of rivers that run through beds, formed of their own alluvions. This is to be understood of the season, when they are not swoln by the periodical rains.

according to our Author; and strangers were not allowed to enter the other branches. He is silent respecting the navigation of the Sebennitic and Pelusiac branches; although it cannot be supposed otherwise, than that they were used by the Egyptians themselves: and it may be suspected that he knew very little concerning the lower part of the Delta, since he omits to mention some of the great lakes, that occupy so considerable a proportion of it.*

The Pelusiac branch has long ceased to be a perennial stream; the eastern and principal part of the Nile, being now collected in the Damietta, or ancient Sebennitic branch. By this change, about one half of the Delta has been lost, not only in the geographical arrangement, but in its use as cultivable land: the tracts which the river has left, having for the most part, become sandy deserts; as has happened on the opposite side, by the change of course of the Canopic branch.

The ideas of the ancients, respecting the dimensions of the base of the Delta, were accurate enough, if we suppose that some spoke of the circuit of the coast, others of the direct line between the two extremities.

Herodotus says (Euterpe, 15), "This region, (that is the Delta) from the Watch Tower erected by Perseus, extends along the coast to the salt-pits of Pelusium, to the length of 40 schoenes." Taking these as before, at 40 stadia each,† we have 1600 stadia for the extent of the coast. But where was the Watch Tower of Perseus? Strabo places it (page 801), at the eastern point of the Bolbitine branch, on a projecting sandy point. But the Canopic, and not the

* He knew the lake of *Butos* (or Brulos), for he speaks of it (Euterpe, 156), as being *spacious* and *deep*: but he omits the lake of *Tanis*, as well as that of *Mareotis*.

Respecting the *lotus*, which he says abounded in the inundated parts of Egypt, (Enterpe, 92) it may be suspected that he has confounded together different species of plants. At all events, however, the Egyptian lotus, whatsoever it may be, is totally distinct from that, from whence the *Lotophagi* were denominated. More will be said concerning this subject when we speak of the Lotophagi.

† See above, pages 18 and 19.

Bolbitine, mouth, terminated the Delta on the west; and there, surely, we ought to look for the tower. The words of Herodotus could have no meaning, unless the tower stood at the opposite extremity of the Delta to Pelusium: and therefore the rocky promontory of *Abukeir*, on which Canopus stood, was probably the site of the Watch Tower of Perseus: and which at present contains a romantic castle and tower, views of which may be seen in Norden, Plate XIV. There appears to be more reason, to expect a watch tower on an elevated rock, near the mouth of the Canopic branch, which led to the grand emporium of Egypt, than at the entrance of an artificial canal, and on a sandy shore. The reading in Strabo may therefore be suspected.

The 1600 stadia, calculated on our mean scale of 718 to a degree, produce nearly 134 G. miles; and the curvilinear line of the coast, between Pelusium and Canopus, measures 138.

Strabo, page 791, allows 1300 stadia; Pliny, lib. v. c. 9, 170 MP, which were probably calculated from stades, at 8 to a mile; whence 1360 stades will be the result. The 1300 of Strabo, on his scale of 700, are equal to $111\frac{1}{2}$ G. miles; and those of Pliny, on our mean scale, to $113\frac{1}{2}$: and as it must be conceived, that these measures are intended for the *base* of the Delta, reckoned in a direct line between the two beforementioned embouchures, they fall short by a few miles only; the actual length of the base, being 117.*

Herodotus is silent, respecting the length of the sides of the Delta: and his statement of the distance, between Heliopolis and the sea, is evidently erroneous, as we have shewn. (See the note to

* According to our Author, Euterpe, 6, the sea coast properly reckoned to Egypt, extended from the bay of *Plinthine*, which begins about 20 G. miles to the SW of Alexandria, to the lake *Sirbonis*, close to M. *Casius*; and was in length 60 schoenes: that is, half as much again as the sea coast of the Delta. Accordingly, the whole length of the coast of Egypt should be 201 G. miles, by this account: and we measure on the Map, at page 449, 199.

Scylax allows 200 stadia between *Pharos* and the bay of *Plinthine*.

page 487). Strabo also, omits to give the dimensions: he only says that the sides are not equal to the base, which is true. (Page 701). Pliny allows 146 MP. for the length of the Canopic branch; but it could never have exceeded 89 G. miles; which falls short about 300 stadia, of Pliny's calculation.

The present Delta appears to have a base of 61 G. miles, and the sides, 83 and 86, respectively; of which the eastern is the longest: and, it is pretty certain, that its area is only equal to one half of the ancient Delta.*

Having thus stated the ideas of our Author, respecting the general subject of the Nile, and its Delta, we shall bring into one point of view, the number, and order of position of the several branches of the Nile; according to the ancient authorities *in general;* together with the modern ones that correspond to them.

I. The CANOPIC branch. This was also named *Heraclean*, from the town of *Heracleum*, situated near the entrance: for the city of Canopus lay beyond it to the *west;*† and in the time of Scylax, the site of it was a desert and rocky island. For he says (p. 43), that at the Canopic mouth of the Nile, there is a *desert* island, which they

* This tract appears to have lost about 70 British miles of its base on the east, 18 on the west: making in all, a defalcation of 88 B. miles: and leaving about 71 for the present base.

† Critically speaking, Canopus was situated at 120 stadia, or 12 British miles to the eastward of Alexandria: (Strabo, p. 801: Pliny, 12 MP. lib. v. c. 10.): and the Canopic mouth at 30 stadia, or 3 miles beyond the town: for according to Strabo it was 150 from Alexandria; and the same from the Island of *Pharos*, according to Scylax.

It must be noted, that these measures respect the *ancient* Alexandria, which stood to the *eastward* of the modern city: so that the centres of the two cities were at least two miles asunder. Reckoning from the modern Alexandria, the distances, respectively, should be increased to 14 and 17 miles.

Schedia, a city of note on the Canopic branch, was situated at about 6 G. miles above the entrance. This may be collected from Strabo. A canal connected this part of the Canopic branch, with Alexandria.

name Canopus; and that the sepulchre of the pilot of Menelaus, by name Canopus, who came from Troy, is shewn there. By this account the city of Canopus was not built till after the time of Scylax, who is supposed to have been cotemporary with Darius Hystaspes. Scylax, who wrote a Periplus for the guidance of navigators, is likely to have been critical in such a matter: and therefore, the existence of an island, and that island a desert one, seems to be proved.* Since that time, it has been joined to the main by alluvions, which appear to be hardly yet consolidated into firm land. The Island of *Pharos* is also spoken of by Scylax; since which it has also been joined to the main land, by *sea* alluvions, aided in their operation by a causeway, built by Alexander: and on which alluvions, the *modern* city of Alexandria stands.

When Paris was driven by contrary winds, to Egypt, he came to the Canopian mouth of the Nile, and to *Tarichea;* in that situation was a temple of Hercules, which remained to the days of Herodotus. This temple, it may be supposed, afterwards gave name to the town of Heracleum, mentioned by Strabo; and which might be the same with the Tarichea of Herodotus, four centuries before. To this temple, the servants of Paris repaired, and gave the information that led to the seizure of Paris and his effects, and the detaining of Helen. After this, Menelaus himself visited Egypt, and received back his wife, and his effects from the king.†

Thus the classic importance of Canopus, is very great, considered either as a place visited by the heroes of the Trojan war; as the

* It is worthy of remark, that when Nearchus passed the Island of *Ormus*, afterwards famous for its city and emporium, it was uninhabited; and is described by him as a *desert* island, under the name of *Organa*.

† See Euterpe, 113, *et seq.* where the story of Paris is given; and which is well worth the attention of the reader. There will also be found our Author's ideas respecting the true history of the war of Troy. It may be remarked, that the conduct of the king of Egypt, in the matter of Paris, was that of a just and magnanimous prince, doing honour to himself and his country, at the same time.

reputed burial place of the pilot of Menelaus; or in respect of the rank which it held amongst the cities of Egypt:* but as some ancient places have been so fortunate as to renew their classic importance, in modern times, as if to insure the certainty of a longer term of celebrity; so this place, under the modern name of ABUKEIR, has received a new, and perhaps a more lasting, impression, of "the stamp of fate," by its overlooking, like SALAMIS, the scene of a naval battle, which, like that of Salamis, may lead to a decision of the fate of Europe. This most brilliant victory, achieved solely by Britons, Europe felt as her own; and Frenchmen *alone*, mourned the defeat. To this spot, the genius of Britain conducted his favourite NELSON, who at one blow destroyed the fleet of the enemy, and cut off, for ever, the veteran army of France, from her shores.

But what secluded shore of the ocean, has not in its turn, reverberated the BRITISH THUNDER? During the present struggle what walls have resisted, save the WOODEN WALLS of Britain? Nor shall history, although she delights more to record a brilliant victory, than the councils that produced it, sink to posterity the name and character of the NAVAL MINISTER, who so successfully directed the great engine of British power! Devoted to her service, his country shall claim him for her own, to the latest times; whilst France shall recognize in the descendant of Marlborough, the hereditary foe to her schemes of ambition and aggrandizement! †

* From the Travels of M. Sonnini, just published at Paris, it appears that very considerable remains of CANOPUS are now visible at ABUKEIR: such as broken columns of granite, vast foundations, mutilated statues, and heaps of rubbish. Some of the foundations extend into the sea: and according to the opinion of M. Sonnini, the sea *gains* on the land there; which is contrary to the ideas of the people of Alexandria, respecting that city; as we learn from Mr. Browne. The people of Abukeir call the ruins, those of the city of *Pharaon*, or Pharaoh. See Vol. i. p. 390, *et seq.*: and also the volume of plates for the drawings of the ruins, &c.

† The answer of the Delphic oracle to the Athenians, when threatened by Xerxes, (Polymnia, 141.) was thought to be so applicable to the circumstances of this country,

The Canopic, was the most westerly of all the branches of the Nile, at the date of our Author's history. Varying its course, more and more to the east, in the part near the sea, it formed at last, a deep winding, which approached so near to the sea in the quarter where Rosetta now stands, that a canal was opened in that direction, and took the name of *Bolbitine*, from a city, whose ruins are found a little above Rosetta, at a place named *Abu-Mander*.* This branch is also named *Tali*, by Ptolemy. Not far below the separation of these branches, stood the city of *Metelis* (according to Ptolemy); whence, it may probably have occupied the position of the present town of *Mentubes*, eight miles above Rosetta: for there M. Niebuhr saw the traces of an ancient city.† M. D'Anville places Metelis at *Fua*, which is considerably *above* the division of the branches.

The Canopic channel gradually filling up, that of Bolbitine became deeper, until it assumed the place of the former: so that the ancient passage, which at all times led through a series of shallow

that the phrase of "wooden walls" is in every one's mouth, without a consciousness of its first application. However, as it respects mere defence, it must be taken in a qualified sense; a fleet operating rather as a systematic check on the designs of the enemy, than as an effective shield or weapon, in the last resort. Its perfection appears, in the subjection of an enemy's foreign possessions, and the protection of our own: but in respect of our own island, its vicinity to the coasts of the enemy, is such, that no security can be derived from a fleet, without the presence of a considerable land force also. Neither of the two, singly, to any reasonable extent, would avail; but the compound preparation, although moderate in each department, produces absolute security. By *doubling* the hazard, on the part of the enemy, they compel an increase of preparation, even to unweildiness, and thus narrow the chance of an opportunity to strike a blow.

* See above, page 448 of Section xviii.; and M. Niebuhr's Voyage en Arabie, &c. Vol. i. p. 45.

† See the same volume, page 78.

The *Milesian* wall spoken of by Strabo, page 801, 802, was probably built across the narrow tract between the Bolbitine branch of the Nile, and the lake of *Butos*; so as to oppose any attack from the Egyptians, from the side of Memphis. Butos, which stood at the side of the lake, was at no great distance from the river, so that the extent of the wall need not to have been very great.

lakes, is now dry during the low state of the Nile.* The present branch that passes by Rosetta, must therefore be regarded, generally, as that of Canopus, in the part between the head of the Delta, and the outlet of the branch, that leads to the bay of Abukeir. However, it has doubtless undergone many changes, in particular parts of its course; and is also *shortened* by the change of place of the apex of the Delta.

At the side of this branch were also situated, amongst others, the ancient cities of NAUCRATIS, the emporium of Egypt, and *Hermopolis* the lesser. It will be proper to speak of both these situations, as we differ exceedingly from M. D'Anville concerning the latter; and as the former appears to be recognized in the ruins seen by M. Niebuhr, at *Salhadjar*.

M. D'Anville places Hermopolis at *Damanhur*, a town situated on the canal of Alexandria, about 10 or 12 miles below its outlet from the Canopic branch, at *Rahmany*. The ancients however place it, not at the side of the canal, but at the river itself:† and this is justified by the Antonine Itinerary, and by its application to the actual geography. Hermopolis, therefore, should be placed at Rahmany.

The Antonine Itinerary allows 159 MP. between Alexandria and Memphis: and the Theodosian Tables have the same number. The road, in the former, leads through *Chereu*, *Hermopolis*, *Andropolis*, *Nicia*, and *Latopolis*;‡ and the distance will be found to

* The course of the ancient river is well known to the people of the country, who point it out to travellers.

† Ptolemy, Africa, Tab. III. Appendix; and Strabo, page 803.

‡ Alexandria 24 Chereu 20 Hermupoli 21 Andro 31 Niciu 28 Letus 20 Memphi: total, 144 only; but in the road from Pelusium to Alexandria 36 are allowed between Andropolis and Hermopolis: as,

Andro 12 Nithine 24 Hermupoli: and the corrected total will be 159. See Ant. Itin. pages 154, 155, 156.

The Theodosian Table has, Alexandria 24 Melcati 32 Naucrati 43 Niciu 36 Auleu 24 Memphis: total also 159.

Although the *totals* agree, with each other, and with the actual geography, yet the reader will perceive a considerable difference between the *details*.

agree, if reckoned through Rahmany, considered as Hermopolis: as will that in the Tables, if reckoned through *Rahmany* and *Naucratis*. There appears to have been a necessity for the angle in the road, at Hermopolis, because of the intervention of the lake *Mareotis*; which we conceive to have extended in a different direction from that assigned it by M. D'Anville. For Strabo allows it a length of 300 stadia, or about 30 British miles, with a breadth of 100 stadia, or 10 miles: and he also speaks of several canals, which led to it, from the Canopic branch of the Nile. Moreover, he speaks of this lake and its islands, as lying on the *right* of those who go from *Schedia* to *Memphis*.* A slight inspection of the Map will shew, that the lake in question, must have extended to the ESE, from Alexandria; for had it extended to the SW, appearances would manifestly shew its site, by a soil differing totally from the natural soil of Lybia. Mr. Browne says, " In my excursions about Alexandria, the low ground and some verdure, which I considered as marking the former extent of the lake Mareotis, appeared to me to reach SW, a league: or perhaps a league and half, and no more. In going along the coast we saw little or nothing that could assist, in fixing its extent."

Of necessity then, both the land road, as well as the canal which supplied the cisterns of Alexandria with the water of the Nile (for that of the lake we may suppose was not proper for keeping), must have led by the north of the lake, and at a great angle with the line of direction between Alexandria and Memphis. The *navigation* from the Nile to Alexandria, was no doubt by those canals described

* Strabo, page 803.

Pliny, lib. v. c. 10, allows 30 Roman miles for the extent of the lake Mareotis; or 60 in compass: but he says that some allowed it a much greater extent. No doubt, it had been constantly on the decrease: it having now totally disappeared, and the site of it become a plain, with palm trees in divers places.

Ptolemy allows it a length of 34 G. miles; which would reach upwards to the parallels of Naucratis and Sais; and beyond the ruins which we take for those of Momemphis.

by Strabo, from a point above Hermopolis, to the lake Mareotis; which might approach within a few miles of the Nile, on one side, and close the walls of Alexandria, on the other.* There appears, therefore, no necessity for supposing a canal navigation of more than 35 British miles, between the Canopic branch and the lake Mareotis; as M. D'Anville describes. The use of this lake, as a medium of direct communication, with the Delta, and Upper Egypt, without the hazard of putting to sea, was, no doubt, one of the advantages reckoned upon by Alexander, in his new establishment.†

To return to Hermopolis, and the road to Memphis—Hermopolis is 44 MP. from Alexandria, and therefore agrees in distance, to Rahmany, at the side of the Canopic branch. *Karavi,* which lies between, agrees to the *Chereu* of the Itinerary, 24 MP. from Alexandria: and at least, seems to prove that the first 24 miles lay in the line towards Rahmany.‡

Sah, the site of the ancient *Sais*, stands, according to M. D'Anville, at five miles to the east of *Labben*, a position in M. Niebuhr's Chart. Strabo says, page 803, that *Naucratis* stood at two schoenes by water from Sais: and as the latter lay inland, to the east, from the Canopic river, but the former on that river itself, the water passage must have been by a canal, crossing the Delta: and as the canals at present, run to the NW, at that very place, Naucratis

* Scylax says that the distance from the lake, to the Island of Pharos, was very small.

† It has been said, that Herodotus does not appear to have heard of the lake *Mareotis*. It must be recollected that he visited Egypt before the foundation of Alexandria; and when the lake in question had not excited the attention of the Greeks, as it afterwards did, on occasion of its connection with that city. Probably, it was even more extensive in the time of Herodotus, than of Strabo: and might have approached very near to the Canopic branch.

‡ The march of Bonaparte from Alexandria towards Cairo, was along the road described in the Roman Itinerary, to Hermopolis, or Rahmany.

should have been to the NW of Sais: and at the distance of about eight miles from it.

Again, Naucratis, by the Theodosian Tables, is 56 MP. from Alexandria, towards Memphis: and as this road must also be supposed to lie through Rahmany (taken for Hermopolis), Naucratis should be 12 MP. beyond Hermopolis, towards Memphis. In other words, Sais and Hermopolis should be 20 MP. asunder; of which, 12 are between Hermopolis and Naucratis; eight between the latter and Sais: and the construction, founded on the abovementioned *data*, allows 22: which is sufficiently exact for the purpose in hand. Naucratis should then be 103 MP. by the road, from Memphis, and the construction actually allows 101.

This position of Naucratis falls precisely at Salhadjar, about 28 G. miles above Rosetta; at the east side of the river, or within the Delta. M. Niebuhr says, Vol. i. p. 78, that there are indications of an ancient and extensive city, at that place; and that, in consequence, he visited the spot. But he found little to repay his curiosity, although he satisfied himself as to the fact of the remains: *he* does not, however, appear to have referred them to Naucratis. Such are the remains of this once celebrated emporium, the seat of wealth and beauty, and the resort of merchants from every quarter! Even Alexandria which succeeded it, has long lost its consequence.

"Formerly (says our Historian) Naucratis was the sole emporium of Egypt. Whoever came to any other than the Canopian mouth of the Nile, was compelled to swear that it was entirely accidental; and was in the same vessel obliged to go thither. Naucratis was held in such great estimation, that if contrary winds prevented a passage, the merchant was obliged to move his goods on board the common boats of the river, and carry them round the Delta to Naucratis;" Euterpe, 179. Perhaps this restriction originated in the same jealousy, which in the empire of China, limits the trade of Europeans to the port of Canton: and one cannot help remarking

how parallel the two cases are, in this respect. The Greeks were permitted to have a commercial settlement at Naucratis, and they were allowed places for the construction of temples, for their religious rites.

Strabo attributes to the Milesians, the foundation of the city Naucratis; after they had established themselves near the mouth of the Bolbitine branch, in the reign of Psammitichus: (pages 801, 802.)

Amasis is said to have been "very partial to the Greeks, and to have favoured them upon every occasion. Such as wished to have a regular communication with Egypt, he permitted to have a settlement at Naucratis. To others, who did not require a fixed residence, as being only engaged in occasional commerce, he assigned certain places for the construction of altars, and the performance of their religious rites;" Euterpe, 187. Amasis reigned at about a century after Psammitichus, and was of the city of *Siuph*, in the district of Sais; (172.) *Saiiafe*, is perhaps the place intended.*

It appears from the same book (180), that on occasion of the destruction of the temple of Delphi, by fire, collections were made for the purpose of rebuilding it: and that the Greeks who resided in Egypt made a collection of 20 minæ. Thus may be seen in all ages, the same patriotism and generosity towards the mother country, in their foreign commercial establishments. The British subjects residing in the East and West Indies have manifested the

* Sais was a city of very great note, far down the Delta, and towards the Canopic branch. Here the kings of Egypt had a magnificent palace; Euterpe, 163, 169. Edrisi mentions it under the name of *Sab*.

Some circumstances in the history of Amasis, furnish a general idea of the position of *Momemphis*, at which place the battle that transferred the dominion of Egypt, from APRIES to AMASIS, was fought. From Euterpe, 161, 163, 169, it would appear to have been at no great distance from *Sais*, on the road to *Cyrene*. The ruins of a city are noticed at 12 G. miles to the westward of Sais, and about four from the western bank of the Canopic river. Ramsis is the nearest village to the ruins. (Niebuhr, Vol. i. p. 78.)

same spirit in these times, as the Greeks did in Egypt. However mistaken the object in the latter case, the motive, as well as the praise, is the same, in both. It was to perpetuate the ancient system, under which they had flourished. On the above occasion, Amasis presented the Delphians with 1000 talents of *alum*.*

Herodotus remarks that the courtezans of Naucratis were generally beautiful. Amongst them was *Rhodopis*, whose beauty was universally celebrated; and to whom the Greeks, erroneously, attributed the building of one of the pyramids of Memphis. Our Author, by way of refuting this assertion, says, that although her beauty procured her considerable wealth, it was by no means equal to the construction of such a pyramid: and he adds, that "whoever pleases, may now ascertain the sum of her riches; for that wishing to perpetuate her name in Greece, she *contrived* what had never before been *imagined*, as an offering for the Delphic temple: she ordered a *tenth* part of her property to be expended in making a number of *iron spits*, each large enough to roast *an ox*; they were sent to Delphi, where they are now to be seen, behind the altar presented by the Chians." Euterpe, 135.

It is worthy of remark, that in this short history of Rhodopis, our Author has introduced several celebrated personages, with some curious particulars relating to them. *Rhodopis*, who was of Thracian origin, was fellow-servant to *Esop*: and had her liberty purchased by *Charaxus*, the brother of *Sappho*: and finally, on his return to Samos, his sister treated him (we must suppose on occasion of this transaction) with great severity, in a copy of verses. The resort

* Mr. Browne informs us, that "*Sheb* is marked by the production of a great quantity of *native alum*, as the *name* imports. The surface, near which the alum is found, abounds with a reddish stone: and in many places is seen argillaceous earth;" p. 186. This place is situated in the Desert of Selimé, six days to the S of the Great Oasis, three short of Selimé: (lat. 23° 35′;) and consequently within the boundary of Ancient Egypt.

Water is found there, by digging to the depth of a few feet in the sand.

of so many beautiful females to Naucratis, may perhaps be admitted in proof of the general opulence of the place; and of the people who resorted to it. We now return to the subject of the Canopic river.

Doubtless the Canopic branch may at least be regarded as *one* of the deepest, if not *the* deepest, in ancient times; for the city of Naucratis stood at more than 30 G. miles, in a direct line from the sea; or perhaps, about as far as London from the *Nore*. Its course appears to have been originally in the line, between Memphis and Canopus; passing at no great distance from the foot of the hills or eminences that bound the flat country of Egypt, towards the west: for the canal of *Babeira*, which passes in that track, appears to occupy part of an ancient bed of the Nile. (See above, page 500.) By degrees, it has verged eastward; has completely deserted that part of its bed which led into the sea at Canopus, and occupies the *Bolbitine* channel, which was originally an artificial one. By this change, the Delta has been abridged, as has been observed before, about 18 British miles of the western part of its base; and which is become as barren a desert, as the adjoining one of Lybia.*

II. The BOLBITINE mouth. This, from its connection with the former, has already been amply discussed. The ancient authors are perfectly agreed respecting the position and nature of both. They are about 16 miles distant from each other. This is at present named the Rosetta branch, from a city of that name (or rather *Raschid*) near its junction with the sea. It may be remarked, that the bar has no more than six feet depth of water on it, at present; and as there is scarcely any tide in this part of the Mediterranean, either the ancient Canopic branch must have carried a greater body

* This seems to be the natural progress of things, in the neighbourhood of a sandy desert. The southern and principal branch of the *Oxus*, which ran into the SE part of the Caspian, has deserted its bed; and according to Abulgazi Khan, the tract it ran through, from the condition of fertile and well planted field, is become a sandy desert!

of water, or ships must have visited it only during the season that the bar, or *bogas*, was swept away by the floods; and before it again accumulated.

III. The SEBENNITIC mouth. There appear, as we have seen, some doubts respecting the position of this *embouchure:* nor is it a matter of surprize, that there should have been some confusion amongst the descriptions of the different openings of this branch, as it separated into so many channels, previous to its falling into the sea. We find no such confusion respecting the Canopic, the Pelusiac, or the Bolbitine: whence it may be concluded, that the *principal* channel of the Sebennitic, had varied its course in different ages, in the part towards the sea; as well as in the number of its openings. Strabo, as well as Herodotus, regards *that* as the Sebennitic mouth, which lies next to the Bolbitine, eastward; and the latter says, that it runs to the point of the Delta; but then he also says, Euterpe, 155, that *Butos*, which is known to have been at no great distance from the Canopic river, stood at the side of the Sebennitic. Ptolemy says the same: so that here is a proof that the name was applied to different branches; for Butos is so far from being opposite the point of the Delta, that it is rather three-fourths of the distance across, from Pelusium towards Canopus. A branch of, or a canal drawn from, the Sebennitic river, appears to have passed by Butos, into the lake of the same name. It would therefore be wasting time, to go into any farther inquiries concerning the application of the term Sebennitic, as far as respects the opening to the sea; more especially as Herodotus had not a clear idea of the subject, when he spoke of the same river, as passing in one continued line to the point of the Delta, and also as passing by Butos. In effect, whatsoever he has said concerning the bulk and course of this branch, appears to apply to the *upper* part of it; or, at least, not to the part *near* the sea: and it is well known, that it divides itself into a number of channels about the parallel of *Busiris*, (or Abusir); some running to the NW, others to the ENE. Of these,

the one that passes to the point of the Delta, at Brulos, is the one apparently intended for the Sebennitic, by our Author; and probably by Strabo and Pliny also; and may have been the principal channel of this branch, in early times: Strabo, however, allows the *Phatmetic* the pre-eminence. The Sebennitic mouth is about 30 G. miles to the E of the Bolbitine.

IV. The PHATMETIC, which answers to the modern Damietta mouth, succeeds the former, at the distance of about 32 G. miles; and is a continuation of the ancient Sebennitic branch, of Herodotus. At present it is also the *principal channel* of the Nile: and whatsoever variations there may have been, in the state of the different *embouchures* of this branch, in different ages, it appears from the state of the alluvions, that *this*, and the *Canopic*, have kept their general line of course, the longest. The quantity of firm land formed by these, in the parts towards the sea, whilst so great a space remains in the form of lakes, in other parts, furnishes much internal evidence, concerning this question; and indeed, the general course of the Nile being to the northward, it might have been expected to produce a greater effect in the direction of the Sebennitic and Canopic branches, than in any other.

With respect to the depth of the Phatmetic opening, it has been shewn from the arrangement concerning the fleet of Antigonus, that it was then a deep river.

It is worthy of remark that the modern Egyptians denote the tracts on different sides of this branch, and within the ancient Delta, the *eastern* and *western* divisions: but whether this distinction obtained, during the existence of the Pelusiac branch, and meant to express the different portions of the Delta: or whether it was adopted in more modern times, and had a reference to the Damietta branch, as the *proper* Nile, we know not.*

* The body of the *present* Delta is named *Gharbia*, or the western quarter; and the opposite tract which formed the eastern part of the *ancient* Delta, *Sharkia* and *Sharruckia*, or the eastern quarter. *Kelube* answers to the province of Heliopolis,

V. and VI. The MENDESIAN and TANITIC, (or SAITIC) branches. These are situated at the eastern side of the Delta; the first at 21, the other at 38 G. miles beyond the Phatmetic, or that of Damietta. Towards the sea, these are merely openings from the great lake of Menzala, or Tanis; but the Mendesian branch, supposed to answer to the modern canal of Mansura, is represented by travellers, as a pretty considerable river, although it has no great length of course before it enters the just mentioned lake. This is also the river that presents itself in so critical a position, in the war of Louis IX, in Egypt. (See Savary's Travels.)

Very little is known concerning the modern state of the lake Menzala, which is generally named in the country, *Baheira*, a name given, as we have just seen, to lakes, or waters. During the floods of the Nile, the lake Menzala is fresh; at other times, either salt, or brackish. It extends, either in a continued surface, or in a congeries of lakes, joined together by narrow straits, about 60 English miles, between Damietta and Pelusium; and contains islands which have in them the ruins of towns and cities. Strabo speaks of these lakes (page 802); and it is probable that they have undergone little alteration since his time; as the principal course of the waters has been more to the west, and the deposition here, in consequence, lessened.

The modern name of the Mendesian mouth, is *Dibé*, or *Peschéira;* and that of the Tanitic, *Eummé-fareggé.*

VIIth. and last, the PELUSIAC.* In point of situation, it is about

to the eastward, and *Giza* to that of *Latopolis*, to the westward; of the upper part of the Delta. It would appear, that, as the Pelusiac branch has moved downwards, the province of Keliubé has advanced with it, and that of Shurruckia has retreated: so as to keep their places, respectively, the one *without*, the other *within*, the Delta.

Baheira commences *below* Giza; and appears to have been named from the lake Mareotis and its canals; *Bahr* being the term amongst the Arabs, for lakes or waters.

* It was also called the River of *Bubastis*, from whence the importance of that place may be inferred.

23 G. miles to the SE of the Tanitic: and in bulk, although it was a principal branch, in ancient times, yet it may be supposed that it never equalled the Phatmetic and Canopic branches.

Concerning the present Pelusiac river, we have already spoken, under the name of Terraet Mues;* and which is no more than a periodical stream, separating from that of Damietta, at 16 or 17 G. miles below the present head of the Delta. But the ancient Pelusiac river, in the time of Herodotus, (as we have shewn), separated from the others, about the parallel of Heliopolis, and at the town of Cercasora; from whence we trace its course to the north-east, towards Bubastis; in which neighbourhood the canal of Necho to the Red sea, commenced. It is certain that there are no positive notices respecting the distance at which Cercasora stood, from Heliopolis; but from the manner in which Strabo speaks of the relative positions of those places, and of the Observatory of Eudoxus, one cannot suppose the Nile to have passed, as at present, near four English miles and half from Heliopolis. The main body of the river, therefore, must have verged more to the west, in that part, since the times of Herodotus and Strabo, as it is apparent the Sebennitic branch has. And this variation in its course, may have been the immediate cause of the defalcation of the waters of the Pelusiac river.

One may naturally suppose, that, at a time when the separation of the arms of the Nile was yet higher up, than in the time of Herodotus, the Pelusiac branch passed successively in the line of the canals of Trajan and Omar; which canals appear to have been made through the hollow ground left by the river, at different times. This appears no less by the direction of those canals, than by the small lakes that seem to mark the ancient beds of the river, in different places.† But, to descend to later times—the Pelusiac branch,

* See above, page 460.

† In Plate XVIII. of M. Norden's Views in Egypt, where the ceremony of the opening of the canal of Cairo, is described, the appearance of the ground is that of an ancient bed of the Nile, of which the canal makes a part.

It appears that Mr. Browne considered all the soil as alluvial, below Cairo.

when it separated at Cercasora, must have passed near the ancient city and temple of ONIAS, situated to the north-eastward of Heliopolis, at the distance of about eight G. miles. As this is very much to the point of our subject, and as M. D'Anville seems to have mistaken the site of that famous establishment of the Jews, the reader may not be displeased at our giving the detail of its position.

It is well known that Onias, the High Priest of the Jews, founded a temple, and a small city in Egypt, by permission of PTOLEMY PHILOMETER, in the Nomos or province of Heliopolis. This city, as well as the district immediately around it, took the name of Onias, or *Onion*, and as such appears in the geography of Ptolemy. The ancient notices concerning its position, are not so precise as could be wished, that of Ptolemy excepted. Josephus, from whom the whole history of the place is collected, says,* that it stood at 180 stadia from Memphis: but as this points to a situation nearest to Heliopolis, it is, no doubt, a mistake. However, some have, from this circumstance, referred it to Heliopolis, itself; which arrangement is not authorized, either by the history, or the geography.

Ptolemy's report allows a distance of 17 G. miles between Babylon and *Onii Metropolis*, which latter stands at, or very near to, the river of Pelusium; and in a north-easterly direction from Babylon (that is, Fostat, or ancient Cairo.) That this was the general position of Onion, is evident, from its lying in the road between Pelusium and Memphis; and not *within* the Delta, although the plain denominated from the Jews, was situated within that tract; as appears from the same authority.†

There occurs in the Antonine Itinerary (p. 169), a Jewish town or village, at 30 MP. from Heliopolis, towards Pelusium; but this

He says, page 46, "From the north (of Cairo) a plain extends to the Delta, which it resembles in soil and productions."

* History of the Jewish War, lib. vii. 10, 3.

† For both of these notices, see Jewish War, lib. 1. 9, 3; and Antiquities, lib. xiv. 8, 1.

is not only much too far removed from Heliopolis, but, by the construction in page 452, must be situated on a different road from Pelusium. M. D'Anville, however, regards this as the position in question; but he had not the advantage of M. Niebuhr's observations, to set him right; for this gentleman's inquiries lead to a perfect confirmation of the above report of Ptolemy; without discrediting the authority of the Itinerary; since there are the remains of other Jewish establishments, besides the one formed by Onias.

M. Niebuhr then, was informed that the people in and about Cairo, knew from tradition, the situations of several towns that had heretofore been inhabited by the Jews; and of which some remains were still visible. The Jews in question, might either be a part of those who fled into Egypt, on occasion of the murder of Gedaliah; or who might be attracted thither, by the temple and establishment of Onias. M. Niebuhr gives the names of seven such sites, at the distance of *two*, to *eight* leagues from Cairo, to the north-east; and apparently, all of them within the Nomos of Heliopolis; or, as it is named at present, (no doubt corrupted from the ancient name) *Keliubie*.

It appears probable that the *original* establishment of the Jews in Egypt, was in this province of Heliopolis; as the family of Jacob, was no doubt placed at no great distance from the then capital, whether Heliopolis or Memphis; and indeed the history of Moses shews, that the place of *his* nativity could not be far from the capital, by the circumstance of the king's daughter finding him in the course of her walks. There were also reports that Moses himself was of Heliopolis.* If the original settlement of the Jews was in this

* Heliopolis, supposed to be the *On* of the Scriptures, was celebrated as a school of science from very early times. Herodotus says, (Euterpe, 3.) that the inhabitants of this place "are deemed the most ingenious of all the Egyptians." We learn, moreover, from Strabo (pages 805, 806,) that it was afterwards the school of Plato and Eudoxus. Moses is said to have been "skilled in all the learning of the Egyptians." If he obtained it at Heliopolis, it must have very long indeed preserved its

quarter, it appears natural enough that Onias should select a place for his temple, within the same tract.*

Amongst the remains of Jewish establishments, one in particular was pointed out to M. Niebuhr, under the name of *Tel el Jehud*, or *Kabar Jehud Bemderuthe*, at eight G. miles to the NNE or NE b. N of Heliopolis; and which he himself saw, at the distance of four miles to the northward, on his way from Cairo to Suez.† It was reported to have been a considerable city, and it forms at present a great heap of ruins, conspicuous from afar. Josephus relates that some parts of the temple were 60 cubits in height. It was also fortified.

It is certain that the situation of this heap of ruins, answers to the abovementioned place in Ptolemy; for it is about $16\frac{1}{2}$ G. miles to the NE b. N of Babylon, whilst Ptolemy's is 17, about NE $\frac{1}{2}$ E.‡ He also leads the Pelusiac or Bubastic arm of the Nile, by the west side of it; and such is really the course that it may be expected to have taken, from Cercasora to Bubastis: and it must be allowed, that this circumstance furnishes a presumptive proof, in favour of

consequence; for Moses lived about eleven centuries before Herodotus: but it might nevertheless have been so.

The Israelites, when they *began* their march out of Egypt, must have been on the *east* side of the Nile; for they certainly did not cross it, in their way to the Red sea.

* There had been a heathen temple, there, originally. Probably the site might have been chosen, for the sake of the *mound* of earth, already raised there. Such mounds appear at Heliopolis, and other places: and such a one is described by Herodotus, at Bubastis, &c. See above, page 513.

Was it not, that the context of the geography renders it quite improbable, one might have suspected that Bubastis itself, was the place intended by Josephus, when he places it in the district of *Bubastis*, or country of *Diana*; and also on the site of an ancient heathen temple. But the Geography of Ptolemy has in it, *Bubastis*, as well as *Onias*.

† See M. Niebuhr's Voyage, Vol. i. p. 81, 82, and 172.

‡ It is proper to remark, that M. Niebuhr himself conceived that the ruins were those of the city and temple of Onias. See Vol. i. p. 81.

the assertion of Herodotus, that "the Pelusiac arm of the Nile directs itself towards the east from Cercasora." It may be remarked, that Ptolemy derives the branch that passed before *Athribis*, from that of Bubastis, a little below the apex of the Delta; which appears probable, and furnishes another presumptive proof, that the *great body* of the Nile has gone to the west, in that quarter.

The bulk of the Pelusiac branch of the Nile, may be inferred, as well from the security it afforded to the eastern frontier, as from its being able to furnish a copious supply of water for the canal of Suez. It may be conceived that whilst the separation of the arms of the Nile, was high up towards the entrance of, or within, the valley, the Pelusiac river ran in such a direction, as to have a proper descent, along the general slope of the alluvion: but that when the Nile continued its course in a collective stream to a much lower point, that of the Pelusiac branch became almost at right angles with the general course of the Nile; so that it was deprived of the declivity necessary to preserve its course to the sea. And hence, probably, we are to account for the failure of this once copious stream.

When we regard the general arrangement of the lands of the Delta, and the adjoining tract; in the lower part of which, towards the sea, is found a lake, and a portion of land, alternately; with a large arm of the Nile passing through each of those portions of land; it appears almost certain, that these narrow tracts of land have been extended so far beyond the great body of the Delta, by the long continued courses of the rivers, through them; as the lakes are occasioned by the absence of the rivers.*

The lakes may be considered as portions of the sea, not yet filled

* The mouths of the Rhone, seem to furnish the same kind of examples; together with appearances of the change of place of the head of its Delta, downwards. Probably, an examination on the spot, would substantiate the fact, beyond dispute.

up; but which are daily filling, though in different degrees, according to situation and circumstances. For it may be perceived, that the operation of filling up the lakes, and raising the soil of the lands, has gone on the most rapidly, in the western part of the Delta, and its adjacencies; the lake of Mareotis, which formed an expanse of 30 miles in the time of Strabo, being now filled up, nearly to the level of the country; and the lakes by Canopus much in the same state: whilst that of *Butos*, (or Brulos) near the middle of the maritime part of the Delta, remains; although it be much smaller than that of *Tanis* (or Menzala), which is the furthest removed from the general line of course of the Nile.

It may therefore be inferred, by the hollow and imperfect state of the Delta on the east, that much less of the matter of alluvion has been carried that way, than towards the north, and north-west: and it seems agreeable to reason, that the issue of the waters should be in the direction of the general course of the Nile, which is northerly: and that the greatest deposition should follow the greatest discharge of water. In the eastern quarter, therefore, the new land is found in the most imperfect state: large lakes and morasses lying midway down the Delta: and a vast lake (that of *Baheira*, or *Menzala*) near the sea, inclosed on that side by a bank, formed apparently of the sediment carried to the eastward, by the prevailing current, along the coast; and deposited along the edge of its track, in the form of a *narrow dam*; and which has been raised higher than the mere act of deposition could have placed it, by the surge of the sea. The progress of filling up has been very slow; for Strabo speaks of it, page 802, much in the same way as modern travellers do. It is possible, however, that breaches of the sea, may have protracted this operation, as they have enlarged the *Zuyder Zee*, in modern times.

Besides the instance of the Mareotis, history furnishes several examples of the filling up of lakes, by depositions. The Tigris and

Euphrates in the time of Nearchus, formed an extensive lake near the sea. That lake is no more to be found. The upper part of the *Paludes*, into which the *Pallacopa* led, below Babylon, now forms a plain, although it retains its former name of *Bahr Nedjuff*; that is, the sea, or lake of *Nedjuff*. It has also been remarked, that the site of the lake Mareotis still bears the name of *Baheira*, or the lake.

Travellers have remarked chains of *sand hills*, along various parts of the coast of the Delta: and more particularly in the parts opposite to the lakes of Brulos and Menzala. It may be conceived, that these have remained for ages, in the nature of mounds, to retain the waters of the lakes; the progress of extending the alluvions into the sea, in these places, having been so slow, as to leave the margin of the coast so long exposed to the operation of the surge raised by strong northerly winds, as to produce the effect above described. This opinion, if founded, overthrows the idea of a rapid extension of the Delta; at least, in the parts removed from the mouths of the river. Such chains of sand hills are also found in other alluvial countries, and sometimes many leagues inland; though always, we believe, extended in a direction parallel to the sea coast. In these cases, it may be supposed that the lakes to which they served as mounds, have been filled up; and the alluvions, (either of the sea or of rivers), extended beyond the sand hills, which, in consequence, would be left inland.

Considering the maritime lakes of Egypt, as having been originally parts of the sea, one ought not to treat lightly the tradition preserved by Homer, that the Island of *Pharos*, in early times, lay at the distance of a day's sail from the mouth of the Nile.* The lake *Mareotis* is described by Strabo and Pliny to have an extent of about 30 Roman miles; and by Ptolemy, who lived on its

* It has been shewn that Canopus, as well as Pharos, was anciently an island.

banks, of 34 G. miles inland, from Alexandria: and 35 was the space sailed through in a day, by the ancient ships! Who can help supposing, when he considers the disposition of the land and water, in the Delta of the Nile, and the process of forming new alluvions, however slow, that such was once the state of things?

The COAST and COUNTRY of LYBIA: with the OASES, and EGYPT.

To which is added,

A MAP of POSITIONS;

Exhibiting the Authorities on which the Oases, and particularly that of Ammon, are placed.

This Map explains the XX, XXI, XXII & XXIII d Sections.

The Names with a dash under them, belong to Ancient Geography.

MEDITERRANEAN SEA

Map of Positions particularly refered to in Sections XX & XXI

The Positions of Ammon, Seewa & Santariah on a larger Scale

Published according to Act of Parliament by James Rennell Oct.r 1st 1799.

J. Walker sculp.

SECTION XX.

CONCERNING THE OASES OF EGYPT, AND LYBIA, DESCRIBED BY THE ANCIENTS: AND FIRST OF THE EGYPTIAN OASES.

The Term OASIS, *applied by the Ancients, generally, to those* Islands *of the* Desert *alone, that were subject to* Egypt—*well known to the Arabian Geographers.—General Description of the Oases: with their supposed Origin—their Fertility, Beauty, and Celebrity—owe much, however, to the* Contrast, *arising from their singular Situation—instrumental to Superstition in ancient Times—used by the* Caravans, *as Places of* Refreshment—*like some Islands of the Sea, they have been Places of Banishment for Offenders.—The Tract which contains the* Egyptian *Oases, denominated* Al Wahat; *from* Wah, *the Arabic Term for such Islands—Position and Extent of Al Wahat.—Of the Oases,* two *belong to* Egypt; one *to* Lybia—*general Ideas of the Arabian Geographers, and of the Ancients, concerning them.—*FIRST, *or greater Oasis, determined—its Position opposite to* Abydos, *and not far from* Thebes—*named* Al Wah *by the Moderns.—*SECOND, *or* lesser *Oasis, nearest to the Lake* Moeris: *and is the* Bahnasa *of the* Desert—*less known than the other, to the Moderns.—Investigation of the principal Points, in the Geography of* Lybia; *an Operation necessary to the final Adjustment of the Position of the* THIRD *Oasis; or that of* Ammon.—*The Positions of* Fezzan, Augela, *and* Seewa; *with the Route between Fezzan and Egypt; determined. Proofs that the* Santariah *of the Arabian Geographers, is the* Seewa *of the present Time.*

MUCH has been said, as well by the ancients as the moderns, concerning the number and position of the OASES, or Islands of the Desert, in and about Egypt and Lybia: but, as might be expected, in

a matter where so many have written, and so few have understood the subject, simple as it really is, in itself, there has been much difference of opinion, and much error. It may be conceived that this has chiefly arisen from their having confounded certain of the *Lybian* Oases, with those of *Egypt.* For, it is proper to remark, that, although islands are scattered over the whole Lybian Desert, yet that the ancient geographers in general (Strabo, however, is an exception) applied the term Oases to those *alone*, which formed a part of the Egyptian dominion, along the west of the Nile, and between it and Lybia; and this rule appears to have been generally followed by the Arabian geographers. Even the latter syllable of Seewa, it appears, does not express the term *Wah* or *Oasis.**

Every one knows that the Oases are *insulated* fertile *spots* like islands, in the midst of an expanse of desert; and commonly surrounded by *higher* lands. Abulfeda calls them, in the most unqualified terms, *Islands* of the *Desert:* and applies the term also to large tracts, such as Fezzan, Augela, Wadan, &c. for although the general character of the Oases is that of very confined tracts, yet some of them are very large; and Fezzan, in particular, is equal to a small kingdom; notwithstanding that, by its being completely enveloped in deserts, it is in every respect to be deemed an *Oasis.*

The ancients also appear to have had a most perfect idea of the face of North Africa, by their comparing it to a leopard's skin.† Probably it is spotted, more or less, with Oases, over the whole extent of the desert: for even in the *Sahara*, which has a breadth of more than 50 journies, there appear to be certain spots interspersed, which peep above the surface of the sandy waste, like islands rising above the face of the deep.

The description of the Oases is very brief. They are aptly com-

* There seems to be no question, that the Greek term OASIS, is derived from the Arabic WAH.

† Strabo says so, p. 130, quoting *Cneius Piso.*

pared to *islands* in a *sea* of *sand*;* but they surpass those of the ocean, in that they are almost universally fruitful, whilst the others are more commonly naked and barren: the former, probably, owing their very growth and existence to that principle, which fertilizes them; namely, fountains of water, springing up in the desert; whilst the latter are either the *ruins* of ancient lands; the production of volcanoes; or accumulations of marine substances.

The Oases, with very few exceptions, are plentifully supplied with fountains of pure water: and seem to possess a greater proportion of that useful element, than falls to the share of small tracts of land, in other situations. Is it then too much to suppose, that the foundations of these *islands* were first laid by vegetation, occasioned by springs; the decay of which vegetation produced soil, until it gradually increased to the state in which we behold them? They appear universally to be surrounded by higher lands, which may well account for the springs. In particular, Fezzan† is nearly encircled with mountains: and the descent from the western barrier of Egypt, into the middle level of the Greater Oasis, is strikingly marked by Mr. Browne, page 184.

It is not improbable, however, that the Oases might derive a part of their reputed superiority in fountains, verdure, and fruits, from the striking contrast between them and the surrounding waste; as they can only be visited by persons who have been at least four or five days, perhaps twice that number, in the midst of burning sands; and who are consequently prepared to set a high value on the comforts of *shade* and *cooling streams*, which abound, in those secluded spots; and the want of which had constituted the chief evil of the journey. To these solid advantages, is to be added, the effect pro-

* Thomson thus poetically styles them,

——————— the tufted isles,
That verdant rise amid the Lybian Wild——

Summer, ver. 912.

† African Association for 1790, Chap. IV.

duced on the mind, by the romantic nature of the situation; for we are apt to regard a beautiful scene in an *insular* situation, as more interesting than one of the same kind, in an ordinary, and an accessible situation. Probably the Island of ST. HELENA, however beautiful its scenes, or its women, may derive a part of its praise from the length of time to which its visitors are confined to the watery waste, in their way to it.

It can hardly be doubted that the temple of Jupiter Ammon was placed in the *most retired* of the Oases, with a view to derive advantages from the effects of various impressions made on the minds of its visitors, by its singular situation. It is remarked by Arrian, that Alexander himself was surprized at the nature of the place. The perilous nature of the journey to it (that of Alexander, and the army of Cambyses are examples) would subdue the minds of ordinary persons, and fit them for the operations of priestcraft. The island itself, situated in the midst of a boundless tract of *moving sand*, would appear to such minds, a kind of continued miracle: and the temple may possibly have had a history belonging to it, something like that of *Loretto!*

Mr. Browne's description of the Greater Oasis, however, lessens somewhat of the importance attached to it, from the reports of former travellers; Poncet in particular: for Mr. Browne's praises are bestowed chiefly on the Oasis of Seewa, (and no doubt, very deservedly); and of the other he says little more than there is good water, and plenty of dates. It appears to consist of a number of detached fertile spots, or islands, extending in a line parallel to the course of the Nile, and of the mountains that border the valley of Upper Egypt; separated from each other by deserts of *two*, to *fourteen* hours travelling: so that the whole extent of the chain may be 100 English miles; but by far the greatest part of it, desert.

M. Poncet, who visited it, in his way to Abyssinia, in 1698, agrees in his description, with the Arabian geographers, and also

with those of the ancients. M. Poncet says, "Here are to be seen a great number of gardens, watered by brooks; and forests of palm-trees that preserve a continued verdure."

Mr. Browne describes one principal town, Charjé, and several villages. The whole Oasis is subject to Egypt, and has ever been reckoned an appendage to it.

It appears that the Greater Oasis, and that of Seewa or Siwa, are made use of by the caravans, as places of refreshment, by the way. The former occurs in the road from Egypt to Abyssinia, and Darfoor; the latter, in that from Egypt to Fezzan, and Western Africa in general, and is the most in use of the two; not only as the trade to the west, is more extensive than that to the south, but because the pilgrims to Mecca, form a part of these caravans. The Greater Oasis, indeed, occurs too near to Egypt to be of the same advantage, as that of Seewa, which is 15 or more journies from Egypt, whilst the other is only five. Perhaps the Oasis of Seewa may not be unaptly compared, in respect of the caravans, with the Island of St. Helena, in respect of our India fleets: as it affords water, refreshments, and a convenient place of rest. It is possible too, that it may often afford that kind of intelligence, respecting the political and commercial state of the countries, which the caravan means to visit, as to enable the merchants to arrange their plans with more security and advantage, than if they had kept to the Desert through the whole route: for it is to be observed, that Seewa does not lie in the direct route.*

The Lesser Oasis appears to be but imperfectly known to the Egyptians, as it lies quite out of the track of the caravans; and is therefore seldom visited by any but the Arabs of the Lybian Desert.

* Seewa lies about $\frac{2}{3}$ of the way from the plentiful country of Fezzan, towards Egypt. That the caravans go out of their way, to Seewa, is plain, from what Mr. Browne tells us; for El Sogheir lies two journies to the NE of Seewa, and the Plain of Gegabib three to the NW of it; and the general line of the road from Egypt to Augela is west.

Consequently, a traveller who visits Egypt, is likely to hear less of *this*, than of the others.

Mr. Brown's inquiries, however, have brought out some new lights concerning it; but notwithstanding, the subject is far from being clear. P. Lucas was told that it had no springs, and that the inhabitants were supplied from wells only. But this circumstance does not accord with probability, since by what Mr. Browne heard of it, it is much the same kind of place with the Greater Oasis; which, as well as that of Seewa, seems evidently to owe its existence to springs.

It is a matter of great satisfaction that Mr. Browne has visited the two principal Oases; so that we have descriptions that may be depended on. The Oasis of Seewa (taken for *Ammon*) appears to be by far the finest spot; but what is singular, this favoured place is inhabited by a most unquiet race of beings; perhaps rendered so by the nature of their government, which is placed in the hands of certain turbulent chiefs, whose elections and intrigues frequently produce civil broils and bloodshed.* In the days of Herodotus, as well as of Alexander, they were governed by a king: and we hear of no troubles or dissensions at that time. The religion of Ammon might also be milder, and more tolerant, than that of Mahomed.

The Greater Oasis, and that of Ammon, were used as places of banishment by some of the monarchs of the lower empire. Athanasius, Bishop of Alexandria, the champion of the doctrine of the Trinity, was banished in the 4th century to the Oasis of Ammon, and died there. Nestorias, Bishop of Constantinople, was also banished in the succeeding century, to the Greater Oasis; which was invaded and destroyed by the *Blemmyes*, an Ethiopian tribe, during his residence there. Others of less note suffered a similar fate, in both these Oases. The practice of banishing people thither for ordinary offences, had probably been in use amongst the ancient

* See Proceedings Afr. Assoc. for 1790, Chap. X.; and Mr. Browne's Travels, page 24.

Egyptians. The islands of the Persian gulf, as we have seen, were places of banishment under the Persian monarchs: and it is probable that people would find it even less difficult to escape from the islands of the sea, than from those of the Desert.

In order to collect any precise ideas respecting the positions of the Oases, as they are described by the ancients, one must first lay down as a ground work, the descriptions given by the Arabian geographers; together with the information collected by intelligent modern travellers: as from these, collectively, we are likely to obtain a greater mass of information, than is to be *found* in the writings of the ancients, how much soever they may have *known* concerning the subject.

It appears that the Arabian geographers* express by the collective term AL WAHAT, the Desert which contains the *Wahs* or *Oases* dependent on Egypt; although no such *collective* idea appears amongst the ancients. This tract of Al Wahat claims our first attention; not only as it included the Oases belonging to Egypt, but because the discrimination of it leads to some important geographical conclusions.†

Edrisi says, p. 18 and 19, that Al Wahat lies *near*, or *adjacent* to Assouan (*i. e.* Syene: it may be supposed that the *district* is meant), and extends downwards along the border of Egypt. In p. 43, it is said also to border on the canal of *Menhi*; that is of *Joseph*; which opens into the lake Faiume, or Mœris. Again, p. 97, it touches the border of Nubia, near the southern extremity of Egypt; and, p. 18 and 19, also touches on the countries of *Kucu* and *Kavar*.‡ Thus far Edrisi.

Abulfeda says, that Al Wahat lies to the SE of *Santariah* (that is

* Edrisi, Abulfeda, Jacutus, and Ibn al Wardi.

† The reader is referred, for geographical explanation relative to this Section, to the Map, No. IX, at page 545.

‡ These countries will be found in the new Map of North Africa, published by the African Association, in 1798.

Seewa): and that the district of Augela is situated between *Magreb* (Muggreb, or Western Africa) and Al Wahat.* Again, the common boundary of Egypt and Magreb, is a line drawn from a certain mountain on the coast, (implied to be the lesser *Catabathmus*) to the *tract* of Al Wahat, and thence *along it*, to the boundary of Nubia.† Al Wahat is there said to be composed of a number of tracts like islands, surrounded by the Desert: and that there is a space of three journies between *it*, and *Säide* (Upper Egypt). And, quoting *Jacutus*, he says, that it is composed of *three districts* on the west of the Saide, and beyond the mountains; extending in a direction parallel to the course of the Nile.

Jacutus (quoted by Hartmann)‡ says, that "it extends from a point opposite to the lake of Faiume, to Assuan."

Ibn al Wardi, Hartmann, 491, only says of the situation, that "there are *places* (or *tracts*) named *Alouhat*, situated along the mountains, which are *between* Egypt and the Desert." He is singular in arranging Al Wahat as a division of Africa, and not of *Egypt*. He makes *that* division, which he calls the *third*, to consist of Al Wahat, Barca, Alexandria, and the Desert on the west: and names it *Sus al Adna*, or *the nearest*; meaning, it may be presumed, in respect of Egypt.

Thus we have before us the ideas of the Arabian geographers, concerning the position and extent of the tract called AL WAHAT; which, however, we must conceive to be included within *imaginary* boundaries, except on the side towards the Nile. For, it will be found, that the Oases occupy only a *part* of it; and we can conceive no distinction of boundary, in a trackless desert. Taking it, however, according to the descriptions, one may suppose it to have an extent of 350 G. miles from north to south; and 150 from east to west: and it appears certain, that it contained no other Oases, than those properly belonging to Egypt; that is, the *greater* and *lesser*.

* Tab. III. Africa, marginal notes.

† Tab. II. Egypt, marginal notes.

‡ Hartmann's Edrisi, p. 494.

We come next to the consideration of the *number* and *particular* situations of the Oases or Wahs. And here the Arabian geographers fail us; for *not one* of them is accurate and decided, with respect to *all*; and it is not without great difficulty, and by the help of modern travellers, that the truth is unravelled. And, in effect, it will appear that the Oriental geographers, taken separately, either *knew* less, or have *expressed* less, concerning the general subject, than some of the ancient geographers. However, it will be very satisfactorily made out (we trust) that the most consistent descriptions, ancient and modern, agree in fixing THREE Oases; TWO of which properly belong to Egypt, and the THIRD to Lybia. We solicit a patient hearing from the reader, as he will have to attend to much dry, and intricate discussion.

The positions of the Oases given by Jacutus (as quoted by Hartmann, p. 494.) may easily be shewn to be so erroneous, that it would be taking up the time of the reader to no purpose, were we to state them in detail. In effect, he describes the three Oases to extend in three lines, which are parallel to the Nile, and to each other; and separated by ridges of mountains. Moreover, he extends them in length, from the lake Moeris to the parallel of Assuan. Nothing can be more unlike the truth.

Ibn al Wardi, (Hartmann, 491.) does not specify the number, or particular situation. He appears to speak only of Al Wahat, or the Egyptian Oases, collectively.

It would prove both tedious and useless, to quote indiscriminately the information respecting the Oases, contained in the ordinary books of European travellers. We shall therefore content ourselves with having recourse to M. Maillet, and a very few others, whose information seems to be of a superior kind to the rest. M. Maillet says, p. 303, 304, that Al Wah is nearest to Manfoulet, at the left of the Nile: and that the caravans of Nubia pass to it, from Egypt, after 13 journies. These notices apply to the *Greater*

Oasis; which indeed appears to have been the only one known to M. Maillet. M. Poncet, who passed through it, in his way to Abyssinia, in 1698, made five journies to it, from the bank of the Nile, near Manfoulet, which agrees with M. Maillet's report; as his 13 journies are reckoned from Cairo. Dr. Pococke speaks of *two* Oases only; but then he must be understood to speak of *Egypt* merely: and the omission of the *third* cannot therefore be charged as a deficiency. His remarks are drawn from the ancients, save in the single particular, respecting the distance between the two Oases; which he reports to be 100 miles.* Lucas appears to have heard of one only, and that the Lesser Oasis.

We are concerned to state, that M. Savary, whose opinions and writings in general are entitled to much respect, has given no authorities of his own collecting, for the number, or position of the Oases; and that, moreover, he has, in our idea, failed in the mode of digesting, if not in the construction of the materials, which he has drawn from the ancients, and from the Arabian geographers.

Mr. Browne having visited both the Greater Oasis, and that of Ammon; and having also heard some particulars respecting the lesser one, during his residence in the former of these; much light will be thrown on the subject, by the aid of his remarks: and there is little doubt but that the three Oases, spoken of by the ancients, may be very satisfactorily placed in modern geography.

In the next place we shall adduce the principal authorities from the ancient authors.

Strabo (p. 813.) speaks distinctly of *three* Oases. The FIRST situated opposite to *Abydos*, at the distance of seven journies; abounding with water, vines, and other productions; and well inhabited. The SECOND was near the lake *Moeris*; and the THIRD, near to, or at, the Oracle of *Ammon*. He had previously said, in

* As Ptolemy allows 115 miles between them, we must infer that Pococke spoke from some modern authority.

p. 791, that there were three Oases subject to Egypt; which might very well have been the case, in his time; when Ammon was included in the Egyptian province, subject to Rome. He confesses his ignorance of what lay *beyond* Ammon, and also of the Oases in Lybia. P. 839. The Egyptians, says he, p. 791, call those tracts Auasis, which are surrounded by the wide Desert, like islands in the sea.*

Ptolemy has two Oases only, which he so names; the *Greater* and *Lesser*.† The first, he places in the parallel of Abydos; and the other, not far from the lake Moeris, but to the south of its parallel. Of course, these have a pretty exact agreement with the *first* and *second* Oases of Strabo: and that of Jupiter Ammon answers to the *third*, although not by him denominated an Oasis.

Ptolemy's Greater Oasis is placed in latitude 26° 55′; the Lesser in 28° 45′. It may reasonably be supposed that these *points* or *stations*, are meant to represent some principal place, or town, in Ptolemy's Geography: perhaps the principal town of each of the Oases.

Pliny speaks of *two* Oases only, bordering on Egypt. He also knew the position of Ammon, lib. v. 5 and 6, but confines the term Oasis, like most others, to those of Egypt.

Herodotus appears to have known but of *one*. In Thalia, 26, he describes the Greater Oasis, under the name *Oasis*, as *appropriate* to it; not having, we may suppose, heard of its application generally, to the islands of the Desert. But he, nevertheless, describes those of *Ammon*, *Augela*, the *Garamantes*, &c.; though not under the *name* of Oasis.

Thus the ancients are generally agreed, in limiting the *Egyptian* Oases to two only; placing the third at the Oracle of Ammon in

* Ἀναsις, instead of Ἄυασις, is found every where in the text of Strabo (particularly in page 813); but there can be no doubt that the ν has been substituted for the υ.

† Savary erroneously gives *three* Oases to Ptolemy.

Lybia: and, in this idea, the best informed modern writers appear to be agreed. We shall now bring together the principal authorities, *ancient* as well as *modern*, for the positions of them, severally; adding our own opinion to each.

I. The GREATER OASIS: the best known of all to the Egyptians and Arabs, and generally intended by AL WAH; or THE OASIS, by way of excellence.

This is established in modern geography by the tracks of the caravans from Egypt to Abyssinia. The caravans leave the Nile in the neighbourhood of Siout, or of Manfoulet, in Upper Egypt, situated at 75 to 80 G. miles short (northward) of ancient Abydos, to which the centre of the Great Oasis is nearly opposite. M. Maillet informs us that Manfoulet is the nearest point of the Nile to Al Wah: and that the distance from the place of departure of the caravan (*i.e.* Cairo) to Al Wah, is 13 journies. We find on D'Anville's Map of Egypt, about 220 miles between Cairo and the NE part of Al Wah; equal to 17 miles per day; agreeing very well. It also appears that the same part of Al Wah is 80 miles from Manfoulet (about SW b. W); and M. Poncet's caravan employed five days between those two points; which is equal to a rate of 16 per day: and differs but little from M. Maillet.

Mr. Browne fixed the position of *Siout*, or *Assiut*, by celestial observations, both of latitude and longitude: and it is remarkable, that it differs but a shade, from the position assumed in the Map of North Africa (1798), published in the Proceedings of the African Association. This affords much satisfaction, in respect of the remaining positions in Upper Egypt, which rested on the truth of Mr. Bruce's observation of longitude at Assuan. Mr. Browne fixed the Greater Oasis, that is, the principal town in it, *Charjé*, by an observation of latitude; and calculated its longitude by his bearings and distance from Siout. The result of both will be found in the note; where it will be seen, that Charjé, in our map, stood only

4 min. of lat. more to the south, and 5 of lon. more to the east, than by Mr. Browne's calculation.*

The Nubian and Darfoor caravans appear to travel nearly 100 British miles,† through the Great Oasis, in a direction of south, a little west; so that it reaches somewhat to the south of the parallel of Thebes. But this being yet near a degree and half short of that of Assouan, Jacutus, as we have said before (page 553) is incorrect, in extending the first Wah so far to the south: as is Edrisi, in saying that it lies to the west of Assouan: unless they both might intend the *tract* of *Al Wahat*, merely.

It appears pretty certain that Al Wah extends very little either to the N or S beyond the space which the caravans travel through it: for they appear to go out of their way, in order to profit as much as they can, of the advantages which it offers, in point of refreshment.

It may be perceived that the *first* Oasis of Strabo, placed *opposite* to Abydos, and at seven journies from it, is evidently meant for *Al Wah*: but the distance is rather too great, it being only about 95 G. miles from Abydos to the *nearest* point of the Oasis. Ptolemy has 96, exactly.

Herodotus allows seven journies between Thebes and the Greater Oasis (the only one known to him). He says that this journey was "across the sands;" which well expresses the idea of the road to it. The approximating parts of Thebes, and of the Oasis, may be reckoned 140 G. miles; which require 20 such miles per day, direct; which is above the common rate, although it be lower than that of the journies from Seewa; according to the information communi-

* Mr. Browne places Siout, in - - - lat. 27° 24′ lon. 31° 24′
The Map of Africa, 1798, has - - - - — 27 22 —— 31 19
Mr. Browne places Charjé - - - - - — 26 25 —— 29 40
The Map - - - - - - - - — 26 21 —— 29 45

† That is, including the intermediate intervals of desert, which separate the fertile spots.

cated by Mr. Browne. He was told that Al Wah was distant 12 journies, only, which requires a rate of *more* than 20. He was told the same of *Cairo*, which requires 22; and that *Derna* was only 14 journies distant. But as all of these journies are of the same length, as those of Mr. Browne from the sea coast to Seewa, in which they travelled 11 or 12 hours each day, they must be regarded as *forced marches*: for he tells us, page 17, that there being little or no water in that track, "they were obliged to use all possible diligence in the route:" and the other tracks being much of the same kind, it may be supposed that by these journies are meant such as are undertaken by very small parties, lightly equipped.

Our Author adds, that "the Oasis was said to be inhabited by *Samians*, of the *Æschryonian* tribe:" and that the country was called in Greek, "the happy Islands." Thalia, 26.

It appears that no part of this Oasis approaches nearer than 75 or 80 G. miles, to the Säide, or Upper Egypt; which is understood to include only the narrow valley through which the Nile runs; and which is bounded on either side by a ridge of hills or mountains. However, Abulfeda says, that the Wahs are no more than three journies, (or less than 60 miles) from the Säide. Either the calculation may be coarse, or the Säide *may* extend farther from the Nile, than we suppose: but the question is of little importance; for, in effect, nothing appears more certain than that by the Greater Oasis, the ancients intended the Al Wah of the moderns: and it is equally certain, that the position assigned to each, respectively, by the ancients and moderns, is one and the same; so that not a shadow of doubt ought to remain, regarding the identity of the place.

II. The Lesser Oasis.

Since this does not lie in the track of any of the caravans, it happens that we know much less about it, than the other Oases. It has appeared, that Strabo and Ptolemy, amongst the ancients; Pococke and Lucas, amongst the moderns, have placed it towards the lake

Kairun, or Moeris: and that the descriptions of the Arabian geographers imply an *inhabited*, or at least an *habitable* tract, in that quarter. But its exact site, any more than its extent, cannot be ascertained, and we must be content with approximating certain *points* in it.

Ptolemy, who alone of the ancients, gives any *positive* information concerning its site, places it in the parallel of 28° 45′. He also places it 75 G. miles to the westward of *Oxyrynchus*, a city, which, according to M. D'Anville,* stood on the site of the present *Bahnasa*, at the canal of *Joseph* (called also *Menhi*); but it happens that Ptolemy, by an utter derangement of the position of Oxyrynchus, and the lake Moeris, in respect of Alexandria, places this Oasis in the meridian of the lake, when it ought rather to be 70 miles to the west of it. That is, he places Oxyrynchus very much too far to the eastward of Alexandria: and the lake to the *west*, instead of the *north*, of Oxyrynchus. But there is still no reason to suppose that he mistook the general position of the Oasis itself.

However, the position thus assigned by Ptolemy must relate to some single *point*, which might probably be the principal town of the Oasis; a conjecture rendered still more probable, by our learning from Abulfeda, that a city named *Bahnasa* stands in the tract of *Al Wahat*, and in this quarter; and from Edrisi, that it lies on the road from Cairo, towards the quarter of Fezzan and Morocco.

This matter of Bahnasa, however, not being perfectly clear in all its circumstances, the reader must determine for himself, after we have set the particulars before him.

Abulfeda then, (article Bahnasa) says, that "besides the city of

* Respecting Egypt, M. D'Anville is our guide in such matters as have not been otherwise explained by M. Niebuhr, and other travellers, whose observations have been made since the date of M. D'Anville's writings. The apparent accuracy, and great critical knowledge displayed in the geography of Egypt, by M. D'Anville, as far as he was master of the actual geography, appear to have rendered this department of ancient geography, as perfect as any one whatsoever.

Bahnasa, at the canal of Faiume, (and which he distinguishes by calling it the *Egyptian* Bahnasa), there is another of the same name in *Al Wahat*, near the frontiers of *Nigritæ*."*

Edrisi, p. 106, places Bahnasa at seven journies from Cairo towards *Segelmessa*, in Western Africa. But the reader should be informed, that Edrisi, in another place, allows seven days between Cairo and the *Egyptian* Bahnasa: an evident mistake, as it is no more than about $4\frac{1}{3}$, according to his ordinary scale.

With respect to the road from Cairo to Segelmessa, we conceive there must either be some error, or omission, in Edrisi: for there are no more than 41 journies given, between the two places, although the distance be near 100. The road would doubtless pass through the country of Fezzan; probably through its *capital* also; and in that case too, through *Temissa*, (a considerable town in the same country of Fezzan) at seven journies to the east, or ENE, of the capital.† Now, we find, in the route just mentioned, *Tamest*, or *Tamaset* (for it is differently spelt in the different translations of Edrisi), at 40 stations out of the whole 41, from Cairo; which is actually the distance between Cairo and Temissa, on the Map constructed for this Work, at page 545; following the scale of Edrisi. And hence it may be supposed, that he might originally have given the whole route from Cairo to Segelmessa, and that the remainder of it is lost.

To this may be added, that the mountains of *Salaban*, in Edrisi, occupy the position of those of *Ziltan* on the same Map; besides, there being a general accordance in the nature of the country, to a considerable extent. Perhaps, therefore, from the coincidence of so many particulars, we may well assign to Bahnasa, *its* proportion of the distance, on the same route; which being 7 days at 19, equal to 133 G. miles from Cairo, will, if laid off to the parallel of 28° 45′, (that of Ptolemy's Lesser Oasis) place the Bahnasa of the *Wah*

* Here *Nigritia* seems to be interpolated for *Lybia*.

† See Proceedings of Afr. Assoc. for 1790, chap. iv.

at 83 G. miles to the westward of the *Egyptian* Bahnasa; whence, of course, it falls only eight to the west of the Lesser Oasis of Ptolemy; which, as has been shewn, he places at 75 miles from Oxyrynchus, whose site is now occupied by the Egyptian Bahnasa.*

We also collect from Edrisi, p. 41, that Al Wah is nine journies† from *Santrie* (or *Santariah*,) a known position, (the data for which will be given in its place, and which will appear to answer to the Oases of Seewa and of Jupiter Ammon), at about 254 G. miles to the westward of the Egyptian Bahnasa; so that the Bahnasa of the Wah, or in other words, of the Lesser Oasis, lies immediately between them. Now, as we have seen that this latter is about 83 miles from the Egyptian Bahnasa, and is precisely in the line towards Santariah, it is evident that the complement of the distance to 254, which is 171, will just answer to the nine days between Santariah and Al Wah. So that the Lesser Oasis is certainly intended by Edrisi; and the particular point in it, Bahnasa; which minutely coincides with the distance from Cairo, in the opposite quarter.

M. Maillet, although he is silent respecting Bahnasa, in the text of his book, places a *district* of this name in his map. It is described to lie to the westward of the lake Kairun (Moeris), and about the parallel of 29°; and it bears about SW b. S from Alexandria, which is actually that of our Bahnasa, from the same place.

Dr. Pococke had heard that the two Oases of Egypt were 100 miles distant from each other. These were probably meant for

* See D'Anville's Egypt, ancient and modern.

† Edrisi says, from *Bahrein* (or the *two* lakes) to *Giofar*, two stations; and thence to *Al Wah*, three; the country dry and sterile. Again, from *Bahrein* to *Santariah*, four stations; *Bahrein* therefore lies between *Santariah* and *Al Wah*, *i. e.* the Lesser Oasis, which by the distance should be meant. There are two lakes in Ptolemy, but much too far to the south, for *Bahrein*.

British, and in road distance; and therefore may be taken at about 77 G. miles in direct distance; and would reach from the northernmost point of the Greater Oasis to about the parallel of 29°, or short of Bahnasa, by about 45 miles. But as this points to no *particular part* of the Oasis, all that can be inferred from it, is, that it extends so far to the south.

P. Lucas had heard of this place, whilst in the neighbourhood of the lake Kairun. He appears not to have heard of the *Oases* of Egypt, under *that name*; and therefore his testimony ought to have more weight, as being unconnected with any system. He speaks merely of an *inhabited spot* in the Desert. He says, "There is, in the Desert, at the distance of *some* journies from Faiume (the city so named) a place of inconsiderable extent, full of palm trees, which bear the *best dates* in all *Egypt*.* The Arabs, who possess and cultivate this spot, draw their scanty supplies of water from wells, which they have with much labour and industry, dug in the Desert; and water them with great care. They pay their tribute to the Pacha, in dates." (Vol. ii. of the Third Voyage of Lucas, p. 206.)

A position, at *some journies* distance from Faiume, and in the Desert to the west, can answer to no other place than the Lesser Oasis; which, by our *data*, falls at about five journies from the town of Faiume; four from the nearest part of the lake of the same name. And it may readily be conceived, that the city of Bahnasa, (or what remains of it) is situated within the tract intended by Lucas and Pococke.

It is not unworthy of remark, that the assumed position of Bahnasa, (in the Wah) is removed to much the same distance to the west of the Nile, as the Greater Oasis. In effect, the ridges of mountains in this part, and to which the Oases seem to owe their

* The same is said by Jacutus, respecting the superior quality of the fruits of the Oases.

their position, run parallel to the general course of the Nile, which is from S to N; and appear to terminate on the coast of the Mediterranean, after bending somewhat more to the west, from the Lesser Oasis. This termination answers to the Lesser *Catabathmus* of the ancients, situated opposite to the *Hermæan* Promontory; and about 40 miles to the eastward of Parætonium.

The road of the caravan from Augela to Seewa and Cairo, lies across this range of mountains, for seven days' journey, between Seewah and the Convent of *Lottron*. The line of the road passes at the distance of 70 or 80 miles to the northward of Bahnasa; and ascertains the fact, that the Lesser Oasis does *not* extend so far to the north.

Thus we have given our authorities for the general position of the Lesser Oasis: but which are infinitely less conclusive than those for the Greater. However, concerning the question of Bahnasa, there seems little doubt. The nine journies from Santariah (which is Seewa), the three from the Säide and the seven from Cairo point generally to the same place: and the whole is strengthened by the report of its being near the parallel of the lake Moeris; as well by the ancients as the moderns.

M. D'Anville has omitted the Lesser Oasis in his modern geography, although he had before him, the same materials as we have made use of; Mr. Browne's excepted. Of course, we may conclude that he doubted the authorities. There can, however, be no doubt respecting the existence of an Oasis in this general situation, in proof of which we shall now adduce the information recently obtained from the observations of Mr. Browne.

This gentleman was informed by the Muggrabin or western Arabs, whilst in *Al Wah*, that the Lesser Oasis (called by them *Al-Wah el-Gherbi*, which appears to mark poverty or inferiority, perhaps on a comparison with the other) approached, at its southern extremity, within the distance of 40 G. miles of the northern extre-

mity of the Greater. Mr. Browne also says, that the Lesser Oasis "forms a kind of capital settlement, if I may so speak, of the Muggrabin Arabs, who extend even to Fezzan and Tripoly." (Page 132.) He adds, that "several ruins are said to be found there:" (perhaps those of Bahnasa amongst the rest). Again, in page 170, he speaks of these Arabs passing from the Lesser Oasis to the western extremity of the lake Kairun; whose shore, on that side, is also in their possession.

This information, of course, ought to have its due weight; but although a part of the Lesser Oasis may approach southward to the neighbourhood of Al Wah, yet there is no reason why it may not extend northward to the parallel above assigned. Even the circumstance of the Arab possessors of the Oasis, passing from it to the lake Kairun, seems to shew that a part of the Oasis lies well up towards the neighbourhood of that lake. Mr. Browne describes the Greater Oasis to consist of large detached spots; or a number of islands extending in a chain, separated by intervals of desert. Probably the Lesser Oasis may be of the same nature; as the same mountains that impend over the Greater one, are known to continue northward: *i. e.* in the same direction with the Lesser Oasis. Bahnasa may be in one of the spots, and the most northerly of all; and the southernmost spot may lie within 40 miles of the northernmost of those of the Greater Oasis: and the two, collectively, may form, in effect, one long chain. And finally, the interval of 40 miles, by being very much greater than the intervals between the other islands, may occasion the division into *Greater* and *Lesser* Oases; each consisting of a number of islands separated by narrow deserts. According to Mr. Browne, the greatest interval between the islands of the Greater Oasis, is about 28 G. miles.

No idea is given any where, of the *breadth* of the islands: but it is probably small.

It is certain that the above supposition will give a greater extent

to the *Lesser*, than to the *Greater* Oasis: but the titles may have been bestowed more from the quantity or quality of the produce, than the mere extent, and it seems to be allowed that the lands of the lesser Oasis, are far inferior to the other.*

Before we proceed to fix the place of the THIRD Oasis, it will be necessary that the *positions*, in respect of which it is to be placed, should be arranged; and as these extend in a regular chain, from Egypt to Fezzan, and have a mutual dependance on each other, it will be proper to enter into a discussion of the whole, in the first instance: and although the length of the discussion may occasion some interruption to the matter immediately in hand, yet some time will be saved in the end, by going through the whole at once: since it must otherwise have been resumed, when the subject of Lybia came under consideration.

There will be found, in the accompanying note, the latitudes and longitudes of the several places, on which the construction of the Map, No. IX. at page 545, is founded; several of which are from celestial observations, and others from the *Con. des Temps*, &c. The Map in question serves to explain, not only the relative positions of the Oases to each other, and to the neighbouring countries, but exhibits also the whole coast of Lybia, and that of Syria; together with the eastern bason of the Mediterranean sea.†

* The Author is indebted to his friend Mr. Wilkins for the following interpretation of the word *Gherbi*.

"The word *Gherbi* signifies *distant*, *afar off*, *western*. It is derived from the same root as *Gherib*, a man from a distant country, a *stranger*, a *poor man*, &c. *Meghreb*, the place where the sun sets; *the west*; *Africa*.

† The Map in question contains, besides the geography of the countries, a separate delineation of the positions, according to the several authorities. The reader will be pleased to observe, that although in this *Map of Positions*, the different results of the separate authorities are shewn (and which, is the principal use of it), yet that in the geographical Map, it was necessary to fix the positions, according to

Mourzouk, the capital of Fezzan, is placed, according to the report of modern travellers, in a *due south* direction from Mesurata; a town situated on the coast of the Mediterranean, and within the district of Tripoly. The distance is given at $17\frac{1}{2}$ caravan journies, taken at 15 G. miles each in direct distance; or 262 for the whole. Hence Mourzouk falls in latitude 27° 48′: and being under the same meridian with Mesurata, its longitude will be the same, which is 15° 3′ east of Greenwich. †

The bearing and distance of Fezzan (Mourzouk) from Mesurata, receives some degree of confirmation, from certain notices in Edrisi.

the most approved mode of combination. Consequently, some small differences will appear, in certain cases, between the two Maps.

Table of latitudes and longitudes of the leading positions, in the Map.

	Lat.	Lon. East.		Lat.	Lon.
	° ′	° ′		° ′	° ′
Aleppo - -	*36 11	*37 9	Selimé - - -	*22 15	30 15
Jerusalem - -	31 46	35 20	Seewa - - -	*29 12	26 18
Gaza - - -	31 30	34 32	Parætonium - -	31 9	26 49
Suez - - -	*30 2	*32 28	Augela - - -	30 3	22 46
Cairo - - -	30 3	31 19	Koseir - - -	*26 8	*34 8
Alexandria - -	*31 12	*30 8	Cyrene - - -	32 48	21 22
Bahnasa, in Egypt -	28 48	30 48	Barca - - -	32 20	20 28
Siout, or Assiut -	*27 24	*31 24	Mesurata - -	32 10	15 3
Thebes - - -	25 32	32 26	Fezzan - - }	27 48	15 3
Assouan, or Syene -	*24 0	*33 30	Mourzouk - - }		
Charjé - - -	*26 25	29 40	Tripoly - -	32 52	13 20
Sheb - - -	*23 35	30 10	Tunis - - -	36 44	10 20

* These mark the celestial observations.

† This is the calculation. Mr. Beaufoy, Afr. Assoc. 1790, chap. v. says, that the caravan (which is understood to be that of Tripoly), travels only seven or eight hours per day, and at a rate of three miles in the hour. But we have ascertained in the Phil. Trans. for 1791, p. 142, that $2\frac{1}{2}$ miles is nearly the rate. It is shewn also, in the same place, that the *heavy* or *loaded* caravan across the Arabian Desert, travels about $7\frac{1}{4}$ hours per day; agreeing with Mr. Beaufoy's Tripoly caravan. Then, about 19 British miles will be a day's journey, by the road, and 15 G. miles in direct distance. This statement of the rate of the Tripoly caravan, falls short of that of the African caravans in general, which has been shewn to be upwards of 16.

Wadan is situated on this road, at eight caravan journies southward from Mesurata, $9\frac{1}{2}$ short of Fezzan. Now Edrisi says, page 135, that Wadan is five journies from *Sort*, which is known to be situated at the shore of the Greater Syrtis; distant from Tripoly, according to the same authority, in page 88, 210 Arabic miles, equal to 222 geographic. The five journies being equal to 90 or 95 such miles, Wadan must of necessity lie in a southerly direction from Mesurata, in order to preserve its proper distance from Sort. Again, Zuela, which is a known position, at about 60 G. miles to the east, somewhat north, from Mourzouk, is stated by Edrisi, to be eight journies from Wadan; nine from Sort: and Abulfeda adds, to the southward of the latter. From these *data* collectively, one may rest satisfied that the capital of Fezzan lies very much southerly, if not directly south, from Mesurata.*

The difference of longitude between Fezzan (thus arranged) and Cairo, as will appear by a reference to the foregoing table, is 16° 16′; giving a direct line of distance between them of 861 G. miles.

Between Fezzan and Cairo, there are certain notices, which enable us to arrange the intermediate positions, with some degree of general accuracy. In the first place, Edrisi and Abulfeda furnish, between them, a complete chain of distance in journies; together with three *cross* lines of distance, from the coast, at very convenient intervals for determining the direction of the longer line; which is far from being straight, since it leads through several Oases, or fertile tracts, in order to obtain refreshments and water, for the caravans. A second aid is derived from the number and arrangement of the caravan journies.

The principal bend in the line between Fezzan and Cairo, is

* M. D'Anville has greatly misplaced this capital of Fezzan: for it stands in his Map of Africa, about $2\frac{1}{2}$ degrees of longitude too far to the west; $1°\frac{1}{3}$ of latitude too far to the north. In effect, it is made to bear to the south-westward, instead of the south, of Mesurata.

nearly about the middle of it, at *Augela*: and at this place, fortunately, a line of distance from *Barca* (situated near the sea coast of *Lybia Pentapolis*) to Augela, determines the position of the latter.*

Hadjee Abdalla reckons 53 journies of the caravan between Fezzan and Cairo; of which, 26 arise between the former and Augela; 27 between the latter and Cairo.† These give, on the direct line, a proportion of 16,3 G. miles per day, nearly: but as the distance is increased by the angle, at Augela, from 861 to 869 miles, the mean rate will be increased to 16,4. The process of fixing the exact, or rather approximated, position of Augela, although tedious, must be gone through, in the first instance; otherwise, neither the intermediate positions, nor the place of the Oasis of Ammon, the ultimate object, can be arranged with precision.

Edrisi allows 10 journies between Barca and Augela. His ordinary scale is 19 G. miles for each day, but as it appears that the mean rate is no more than 18, on 44 journies between *Bahnasa* in Upper Egypt, and *Zuela* in Fezzan, through Augela, it may be proper to adopt it *here*; and then 180 miles will be the distance between Barca and Augela.‡

Here then are given, *two* sides of *each* of the two triangles, formed by the points of Cairo, Barca, and Augela; and by Fezzan, Barca, and Augela; the *third* sides of which triangles are to be found in the proportioned distance between Cairo and Fezzan, through the point of Augela: and the result is, that the 27 journies between Cairo and Augela, give 443; and the 26, between Fezzan and Augela,

* See the position of *Barca*, in the Map at page 545.

† See Proceedings of the Afr. Assoc. for 1790, chap. x. Leo allows 60 journies; Mr. Browne and Mr. Ledyard, 50 each. The mean of the *four* accounts, is 53½: differing only a fraction from Hadjee Abdalla.

‡ The following is the statement of the road, from Edrisi and Abulfeda.

Bahnasa to Santariah, 14 journies: (Abulf. Tab. Egypt, article Bahnasa): to Augela, 10 (Edrisi, p. 41.): to Zala, 10: to Zuela, or Zawila, 10 (Ed. p. 40.): total 44 days. The distance through these points, on the construction, is 795 G. miles; and consequently, the daily rate, 18.

426 G. miles; and that the mean caravan journey comes out 16,4, on each of these lines; although on the direct line between Fezzan and Cairo, it fell short of 16,3. Moreover, it appears, that Augela falls in latitude 30° 3′; longitude 22° 46′; by this result.

It may be proper to remark, that although it be true, that the country in the line of the road on the *west* of Augela, is more mountainous and rough, than that on the *east*,* yet that the circuitous nature of the road, on this side, by its leading through *Seewa*, so fully balances the loss of direct distance on the other, that Augela may be allowed to stand in the position assigned to it.

We shall next examine how this position accords with the distances allowed by Edrisi and Abulfeda.

The former, it has appeared, page 568, allows 20 journies between Zuela and Augela; or, according to the mean rate, above adopted, 360 G. miles. Zuela is a known position, 60 miles from the capital of Fezzan, to the east somewhat north; and in the road towards Augela. Of course, 420 miles are to be taken for the distance between Fezzan and Augela; and 426 has appeared to be the result arising on the proportioned caravan journies: or 6 only, more than the other. That the 20 journies lie in one direct line, is proved by the position of Zala; and the 60 miles from Fezzan to Zuela, differ so little in bearing from the other, as to render any allowance unnecessary.† In effect, then, the position of Augela rests on three lines of distance which intersect each other nearly in the same point;

* See Proc. Afr. Assoc. 1790, chap. x. Eleven of the journies are through rocky deserts; and over mountains.

† *Zuela* is said to be eight days from *Wadan*, nine southward from *Sort*: (Edrisi and Abulf.): and *Zala* is nine SE from Sort; ten NE, or between the east and north, from Zuela. Consequently, Zala falls in the line between Fezzan and Augela. See also the Map at page 545. Care must be taken not to confound *Zuela* and *Zala*: the former lies within Fezzan; the latter midway between Fezzan and Augela. There are several places of the name of *Wadan*.

The position of Sort has been given in page 567.

that is, the 10 journies from Barca, and the 20 from Zuela; together with the proportioned distance from Cairo, and Fezzan.

Nothing can well be more satisfactory than this general result: but besides this, the *data* on the side of Egypt agrees to the interval, although that data can only be admitted as such, on a supposition that the author (Abulfeda) has by mistake substituted *Bahnasa* of the *Wah*, for that of *Egypt*: a supposition extremely probable, as the position accords perfectly with the one, and differs more than a *third*, from the other.*

If then it be admitted, that Abulfeda meant to say, that *Santariah* (a celebrated *Oasis*, and no doubt that of Seewa), was situated at 14 journies from the *Egyptian* Bahnasa, instead of that of *Al Wahat*, the distance between Augela and Cairo, will be clearly made out. For the position of the Egyptian Bahnasa, is well known, in respect of Cairo (being 83 G. miles to the SSW of it, and at the canal of Joseph); and the interval on the construction, between this Bahnasa and Augela, is 428; whilst Abulfeda and Edrisi allow 24 journies, equal to 432. The space between Augela and Santariah being 10 journies, according to Edrisi; 14 will of course remain between Santariah and Bahnasa.†

At all events, the position of Santariah in respect of Augela, remains uncontroverted. For the reported distance of 10 journies, or 180 miles eastward from Augela, is conveyed as a positive notice; and Abulfeda allows eight journies to it, from the *lesser* mountains on the sea coast; taken unquestionably for the *Lesser Catabathmus*, near the *Hermæan* Promontory. Edrisi allows nine journies from the *sea coast*, but without any discrimination of place. If we mete

* The subject of Bahnasa has been amply discussed, in page 559 *et seq.*

† As a farther confirmation of the interval of distance between Cairo and Fezzan, we learn from Edrisi (see above; p. 560.) that it is 40 journies between *Cairo* and *Tamest*, or *Temissa*, in Fezzan. The space on the construction is 749 G. miles; allowing a rate of 18¾ per day; or only ¼ of a mile short of Edrisi's general scale, which is 19: and ¼ short of the result between Bahnasa and Zuela.

the line of 180 from Augela, with the 144 from the Hermæan Promontory, Santariah will fall in latitude 29° 9′, longitude 26° 5′.

It appears very certain that the Santariah thus spoken of by Abulfeda and Edrisi, is the same place with the *Seewa* or *Siwa*, of our Maps; since the route and observations of Mr. Browne prove it. It will appear also to be the Oasis that contained the temple of *Jupiter Ammon*, the remains of which have been recently discovered by Mr. Browne, although he declines to regard them as such, in his book. It will be proper therefore, as the next step of this investigation, to compare the position of *Santariah*, with that of *Seewa*; for in adducing the evidence for the position of Jupiter Ammon, it is highly important that the reader should not be left in doubt, whether there is more than one place that might suit the general position and description. It will no doubt appear very clear to him, that Seewa and Santariah are one and the same place. We shall here compare the geographical positions alone; meaning to compare the descriptions, afterwards.

Mr. Browne set out from Alexandria, for the Oasis of Ammon, with an intention of following the same general line of direction, described by the historians of Alexander, to have been pursued by that prince. Accordingly, he went along the coast, westward, to a station, about 20 G. miles short of Al Bareton (the ancient *Parætonium*), and then struck inland to the SSW, and afterwards more westerly. On the first line, along the coast, he travelled $75\frac{1}{2}$ hours; and on the latter, $62\frac{1}{4}$. The rate was regulated by the pace of the camels; which experience points out to be about two G. miles per hour, in direct distance, on ordinary ground, and on lines of this length.* Perhaps, along an indented coast, like the one in question, (for Mr. Browne seldom lost sight of the coast), something may be deducted: and the more so, because Parætonium stands at 169

* The rate is $2\frac{1}{2}$ *British* miles per hour on the road, which produce somewhat above two G. miles in direct distance. But this depends on the nature of the ground.

G. miles from Alexandria, in M. D'Anville's Map; and the $75\frac{1}{2}$ hours at two miles per hour, would leave only 18 for the distance of the last station on the coast, from Parætonium. Accordingly, 149 only are allowed.*

Mr. Browne had furnished himself with a compass, amongst other instruments, and attended to the direction of the route the whole way. The particulars he has very obligingly communicated, since the publication of his valuable Book of Travels; and they supply the following information, respecting his line of course, inland:

That the bearing of Seewa, was South 19 W, (clear of variation) from the station 20 miles to the eastward of Parætonium: and the distance, $124\frac{1}{2}$ G. miles, (being two per hour) on that course, gives $117\frac{1}{2}$ difference of latitude, $40\frac{1}{2}$ of westing: consequently, as the station appears to have been in 31° 7′, the latitude of Seewa, by account, should be 29° 9′ 30″: and the longitude 26° 25′ 15″.†

* Alexander is said to have travelled 1600 stadia along the coast, *to* Parætonium (Arrian, lib. iii.): these may give 137 G. miles, which distance is yet 12 miles short of Mr. Browne's station, and 32 short of Parætonium. It should rather be 2000 stadia; or even more. There is reason to suppose that Alexander did not leave the coast, as Mr. Browne did, before he came the length of Parætonium.

Pliny, lib. v. 5, allows 200 MP. between Alexandria and Parætonium: or just 160 G. miles.

† Mr. Browne, on leaving the coast, went SSW for the first day and half; but then more to the W, so as to make a course of about S 31 W to the village of *Karet-um-el-Sogheir*: and from thence to Seewa, about S 40 W. The variation is taken at 15° westerly: and as Sogheir appears to be situated at about two parts in three of the whole $62\frac{1}{4}$ hours, from the station on the coast; one short of Seewa; the general course, clear of variation, will be S $18\frac{1}{4}$, or say 19 degrees, W. Hence arises a diff. lat. of 1° 57′ 30″; departure $40\frac{1}{4}$; and Seewa, by account, would be in 29° 9′ 30″ lat. and $20\frac{1}{4}$ G. miles west of the meridian of Parætonium.

☞ It does not appear that Mr. Browne noted the variation in this track: but in Darfoor, he found it to be 16 degrees. His station was about the parallel of 14° N, and lon. 28° E. In our Variation Chart in the Proceed. Afr. Assoc. 1798, $17\frac{1}{2}$ is

The latitude of Seewa, by Mr. Browne's observation, was however 29° 12′: so that if any dependance could be placed on the truth of the latitude of the sea coast, the distance infers a more westerly bearing by $3\frac{1}{2}$ degrees; and an addition to the diff. lon. which would place Seewa in 26° 18′, or $7\frac{1}{4}$ west of the former.

A third result arises from the given number of journies of the caravan, from Cairo to *El Sogheir*; combined with Mr. Browne's distance, from the sea coast to the latter place; and thence to Seewa. It is to be observed that the village of *Karet-um-el-Sogheir* is the *Umsequir* of Hadjee Abdalla; and although placed *by him*, or very possibly by the mistake of the *interpreter*, at one journey only to the NE of Seewa, was found by Mr. Browne to be *two* long journies from it. Thirteen journies of the caravan, are reckoned between Cairo and the above village; and these, from the angle made by the road at Seewa, require 16,9 G. miles, in the detail. The 13 journies, then, are equal to about 220 miles; which line of distance intersecting the route of Mr. Browne at a point two parts in three, from the coast towards Seewa (see the last note), or in positive distance $84\frac{2}{3}$ G. miles, places El Sogheir in lat. 29° 42′, lon. 27° 6′. The remaining $\frac{1}{3}$ of the route to Seewa, equal to $42\frac{1}{3}$ miles, laid off to the parallel of 29° 12′, places that town in lon. 26° 32′.

It is proper, however, to remark, that although this statement is admitted, in order that the route may be considered in every point of view, yet that it is manifestly erroneous on the face of it: because it supposes El Sogheir to bear only four degrees to the W of S from Mr. Browne's station on the coast; and he found it to bear about S 13 W *true*. And there can be no question that the other results should be preferred.

The difference of $6\frac{1}{2}$ G. miles (or 7′ 15″ of longitude) between the two former results, is hardly to be regarded, in this question:

found in the same spot. Mr. B.'s observation is in proof of the SYSTEM, there advanced: the difference of $1\frac{1}{4}$ degree, whether arising from the difference of compasses, or from error in the calculation, is of little importance to the system.

and it is somewhat remarkable that a bearing and distance taken in so coarse a way, should agree so nearly to the difference of latitude.* The general result is therefore very satisfactory; and it may be preferable to take the mean of the two calculations, which places Seewa at a bearing of S 11 W from Parætonium, distance 119 G. miles: and in longitude 26° 21′ 30″. At the same time the Author is strongly of opinion, that Seewa is somewhat more to the west; and the reason is, that in cases of this kind, where the rate is determined by camel travelling, the *distance* is more susceptible of accuracy, than the *bearing*. The operation of the distance, simply, carries it, as we have seen, more to the west: and it is possible that even the rate of two G. miles per hour, may be too low; but it would require a very critical knowledge of the ground, to determine the question with accuracy. Such are the authorities for the position of SEEWA.

Now, as it has appeared that Santariah, according to the authorities, is situated in lat. 29° 9′, and Seewa in 29° 12′; and also that the former is situated in lon. 26° 5′, the latter in 26° 21′ 30″; which difference is equal only to $14\frac{1}{4}$ G. miles in easting, and 3 in northing; whilst the place itself occupies a space nearly equal to six miles, by four and a half; and is surrounded by a wide desert; no kind of doubt can be entertained, that both names are applied to the same place. It may also be remarked, that 18 G. miles only, have been taken for each of the 10 journies between Augela and Santariah, because *such* was the proportion arising on the whole line of 44 journies between Egypt and Fezzan: but it is evident that in the detail of a route, of which we have not a competent knowledge, places often lie wider of the direct line, and thus occasion larger intervals, than are allowed for, in the gross: and moreover, that the intervals are not always well proportioned to each other, although

* It may however be recollected, that Mr. Carmichael, on a line of 720 miles between Aleppo and Bussora, erred no more than six or seven degrees. See Phil. Trans. for 1791.

one is compelled to arrange them, as if they were. The ordinary day's journey, in Edrisi, is 19 G. miles, and if this be allowed to operate between Augela and Santariah, this latter would fall precisely at Seewa, according to Mr. Browne's distance and parallel.

Thus we conclude the construction of the Lybian geography; and proceed to the examination of the authorities given by the ancients, for the Oasis and Temple of Ammon, which will be found in the next Section.

SECTION XXI.

THE SUBJECT CONTINUED—OASIS OF JUPITER AMMON; ITS TEMPLE AND ORACLE.

The THIRD *Oasis, that which contained the Temple of* Jupiter Ammon.—Country *of Ammon distinct from Egypt.—Position of the* Oasis, *as determined by the Authorities of the Ancients, collectively. —General Agreement of these Authorities.*—Seewa, *lately visited by* Mr. Browne, *answers decidedly to the* Oasis *of* Ammon: *and the Remains found there, appear to be those of the* Temple.—*No other Oasis in that Quarter.—Elucidations of the Subject, from Ptolemy. —Ancient Descriptions of* Ammon *compared with those of* Seewa; *and that of* Seewa *with* Santariah.—*Some Remarks on the Temples and Oracles of Jupiter Ammon.—Greeks borrow their Mythology from the Egyptians.*—Ammon, *in Africa, the same as* Jupiter.—*The Oracles of Jupiter, at Thebes, Ammon, and Dodona, similar to each other.—Stupendous Remains at Thebes—Silence of Herodotus respecting them, remarkable.——The Edifice discovered at Seewa, resembles certain of those at Thebes and Hermonthis.— Remark on the Style of Egyptian Architecture.—The Remains at Seewa, unquestionably* Egyptian.—*Mr. Browne entitled to great Praise, for the Perseverance and Zeal which led to this curious Discovery.*

THIS OASIS, as it contained the celebrated Oracle of JUPITER AMMON, visited by Alexander, although in dimensions the least, is of the greatest importance of the three, as it respects public curiosity.

The state, or kingdom of Ammon, occupied, in the time of Herodotus, a considerable extent of space in Lybia, between Upper

Egypt and the Desert of Barca, on the E and W (Melpom. 181, 182), and between the Nomadic tribes along the coast of the Mediterranean, on the N, and the great Lybian Desert on the south. It included, therefore, of course, a part of the tract of *Al Wahat*, before described: although the Oasis of Ammon is not included in Al Wahat, in the modern division of Africa. (See the Map at page 545).*

The position of the Temple of Ammon will first be ascertained by the authorities derived from the ancients: after which it will be seen how far it agrees with any of the Oases, or Wahs, described by the moderns. And we have little doubt, but that the reader will finally agree with us, in fixing it at the modern town of SEEWA, known to the Arabian geographers, as we have shewn, under the name of SANTARIAH.

Herodotus places it at ten journies to the eastward of Augela: but it is remarkable that he does not say how it lies with respect to any place in the opposite quarter. He merely says, "that the *territories* of the Ammonians, who possess the temple of the Theban Jupiter, are the people *nearest* to Thebes; from which they are a ten days' journey distant." Melpom. 181. But this has no reference to the temple itself, which is more than twice that distance from Thebes. It appears singular, that he should not have mentioned its distance, either from Thebes, or from Memphis; since he gives it from Augela, a more uncertain situation: and more especially, too, as he speaks of the march of the army of Cambyses to it, from Thebes. For in Thalia, 25, 26, he relates that this prince "sent an army against the Ammonians, with orders to burn the place, or temple, from whence the oracles of Jupiter were delivered;" at the same time that he himself set out on an expedition against the Ethiopians. Both were unsuccessful: and the only difference was,

* One is naturally induced to inquire, what habitable lands, besides the Oasis of Ammon, were included in this kingdom. No satisfaction, however, can be obtained. It is possible that the Oasis itself might form the most populous part of it.

that a remnant of the latter returned; but the former, according to the Historian, were never more heard of. They arrived at the Greater Oasis, in their way to Ammon; to which it was at least, 20 days march; but were either overwhelmed with sand, or left by their guides to perish in the Desert.*

It is unquestionable that the route from Thebes to Ammon must have lain through the *Greater* Oasis; but the proper and safe route would have been from Memphis; from whence it was also about one-third nearer than from Thebes.

Pliny fixes the temple at twelve journies from Thebes, and as many from Memphis, but whatsoever truth (if any) there may be, in the *latter* particular, the statement of the distance from Thebes, is evidently wrong. But laying out of the question (at present) the position of it, in respect of any place to the *eastward*, it will be found that the statements, in respect of places on the *north* and *west*, will be satisfactory enough; taken in a general point of view.

Pliny then, lib. v. c. 5 and 6, gives the distances between Cyrene and the Temple; Cyrene and Alexandria; Alexandria and Parætonium; respectively: and it was from *about* the latter place, that Alexander struck off inland, towards the temple. Again, Strabo, Diodorus, and Curtius, furnish the distance between Parætonium and Ammon, which Pliny and Arrian omit. Herodotus, as we have shewn, gives its distance from Augela; the position of which has already been very well approximated, from the Papers of the African Association; and from Edrisi. From all these, collectively, we hope at least to *approximate* the situation of this celebrated temple and oracle.

There can be little doubt but that Pliny's distances are given

* M. Savary and M. Poncet have both given a frightful idea of the journies across the Lybian sands. Nothing, however, appears more likely, than that the armies perished through fatigue and want of water. Mr. Browne does not so readily give into the belief of the possibility, of a living person being overwhelmed with sand. See his Book, pages 248, 249.

from computation only, and not from mensuration; so that it will be satisfactory to compare them with known distances, in the same quarter; which he gives us an opportunity of doing. For he says, lib. v. 6, that the distance is 525 MP. from Alexandria to Cyrene by land: in which is also included a separate line of distance of 200 MP. from Alexandria to Parætonium. Now, it appears by M. D'Anville's Map of the Coast of Africa, that the former distance, *direct*, is 460 G. miles; and the latter, 169: whence there results a proportion of 70 MP. to a degree on the former, 71 on the latter; whilst 75 is the acknowledged rate of proportion.* There are, moreover, some other distances in this quarter, given by the same author, in which there appears a similar excess, in point of scale. But the difference, notwithstanding, is not great; and we may therefore allow Pliny to have been *tolerably* well informed on the subject. Solinus allows precisely the same distance as Pliny, lib. v. 5, between Cyrene and the temple; that is, 400 MP.: and these, at 75 to a degree, are equal to 320 G. miles.

Strabo, page 799, gives 1300 stadia (of 700 to a degree) between the sea coast, near Parætonium, and the temple; which are equal to about $111\frac{1}{2}$ G. miles. But besides this authority for the positive distance in stades, there are notices in Diodorus and Curtius, from whence it may be collected, that Alexander was seven or eight days on the road. And as these are not to be taken on the footing of ordinary marches of an army, but rather as approaching to ordinary journies, 16 G. miles per day may be allowed (10,6 is an ordinary march): whence 112 to 128 miles will be the result; or taking the mean of the three, about 117. It would have been absurd not to have prepared for a more expeditious movement, than common marching, when delay threatened destruction.†

* D'Anville, Mes. Itin. p. 44, *et seq.*

† From Diodorus, lib. xvii. c. 5, eight journies may be inferred: and from Curtius, iv. 7, about seven. It is said by the former, that having expended their

According to the historians of Alexander, that prince kept along the sea coast, from the site of Alexandria, to Parætonium; and then struck directly inland towards the temple; thereby making the shortest line of course across the Desert. Strabo says, from Callisthenes, p. 816, that his course was *southward*, or *south*, from Parætonium to the temple: and it will appear that our geographical construction, founded on the general result of the best authorities, makes it little more than a point and quarter to the west of south.

Mr. Browne appears to have followed nearly the same line with Alexander, but not exactly, as he left the coast at about 20 miles short of Parætonium (Al Bareton), where a fine well afforded the means of recruiting their stock of water: p. 16. Moreover, Alexander, whilst on the way, was supplied from casual sources; Mr. Browne from the wells of a village (*El Sogheir*, p. 17.); and somewhat wide of the direct route. This gentleman observes, on leaving the well at the sea coast, that from "thence to Seewa, there being *little* or *no* water, we were obliged to use all possible diligence in the route." Alexander's route lay still more wide (to the west) of El Sogheir; and it appears probable that there are no *springs* whatsoever, in that line. But his guides do not appear to have managed so well as those of Mr. Browne.

To return to the lines of distance.—It will be found that those of 320 from Cyrene, and 117 from Parætonium, fall together in latitude 29° 19′; lon. 26° 3′: and that they leave an interval of 175 miles between the position thus pointed out, for the temple, and Augela; falling short by several miles of the 10 journies allowed by Herodotus; but which difference does by no means impeach the general agreement of the authorities.* So that it may with truth be said, that the *three* lines from Augela, Cyrene, and Parætonium,

stock of water, at the end of four days, they came to a valley, in which, from the abundant rain that had just fallen, they filled water for four days more.

* Ptolemy allows 157 only.

coincide within five miles; and leave no kind of doubt respecting the position in which the ancients meant to place the oracle of Ammon.*

The reader will be pleased to recollect that the position of Seewa, as placed above (page 574), on the authority of Mr. Browne, is in latitude 29° 12′ by observation; and in longitude, by deduction from his place of outset, 26° 21′ 30″; whilst that of Santariah, deduced from the Arabian geographers, was lat. 29° 9′, lon. 26° 5′: so that the whole difference of parallel is only ten miles, and of longitude 18′ 30″, equal to 16 G. miles. But in this arrangement, we have adhered *literally* to the ancient authorities: and, it will be found, on a more liberal discussion of them, that the position of the oracle, will approximate to that of Seewa, as pointed out by Mr. Browne.

In the above calculation, we admitted the *longer* line of distance from Cyrene, in preference to the *shorter* one from Augela; because the former was reported as a *positive quantity* of distance (that is, in Roman miles), but the latter, in days' journies, only. It has been shewn, that the distance between Augela and Santariah, in the Arabian geographers of modern times, is calculated also at 10 journies: that is, no doubt, just the same as the ancient reckoning, between Augela and the oracle. And these cannot, according to Edrisi's scale, be taken at the lowest, at less than 18 G. miles in direct distance; or 180 for the whole line; and possibly 190. See above, page 568.

Again, it has appeared, that in the distances reported by Pliny, in this quarter of Africa, the scale appears to be greater than that of 75 MP. to a degree; and that 70 to 71 were the general proportions. It is probable that Pliny, generally speaking, assumes

* It is certain that Mr. Browne was told, that Cairo and the Greater Oasis, were both of them but 12 journies from Seewa; but this could mean only such journies as Mr. Browne made from the sea coast to Seewa, as we have before remarked in p. 558; which see. The 12 journies reported by Pliny, may have been of the same kind. Hadjee Abdalla reckons 13 caravan journies from El Sogheir to Cairo: and El Sogheir is two long journies from Seewa; as Mr. Browne proved.

his numbers of Roman miles, from the stades reported by the Greeks; but it is certain that in the present instance, he must have reckoned otherwise. But taking his scale as we find it, in this quarter, the 400 MP. between Cyrene and the temple will produce *more* than 320 G. miles: and this will also have the effect of approximating the position of Ammon to that of Seewa; which falls about 18 miles beyond the line of 320 miles from Cyrene: agreeing nearly with the 190 from Augela. There is little question but that this result ought to be preferred to the former one; although the difference is not so great, but that either of them might be received.

In effect then, the coincidence of the authorities, generally, must be allowed to be very close: for when it is considered that all the distances are given by computation; the points of outset very far distant from each other, and some of them not very exactly defined; that the latitude of Parætonium, or of the coast near it, may not be very correct in the charts; in short, that the only exact point to be reckoned on in the whole matter, is the latitude of Seewa, as taken by Mr. Browne; no greater satisfaction could be expected. The variations between all the authorities, ancient and modern, amount to little more than a space equal to thrice the length, and twice and a half the breadth of the Oasis in question; which is itself, at the utmost, only six miles long, and four and a half or five in breadth. And it is pretty clearly proved, that no *other* Oasis exists in that quarter, within two, or more, days' journey: but, on the contrary, that Seewa is surrounded by a wide desert; so that it cannot be doubted that the Oasis of Seewa, is the same with that of Ammon: and the edifice found there, the *remains* of the celebrated temple, from whence the oracles of Jupiter Ammon were delivered.

The people of Seewa know of no other Oasis, or of any ruins in that quarter; for the small rocky spot, surrounded by a lake of salt water; which was also visited by Mr. Browne, is by no means

to be regarded as an Oasis. As they have "a communication with Egypt and Fezzan; and the wandering Arabs pass the Desert in all directions, in their visits to Seewa, from Al Wah, Faiume, Thebes, from Fezzan, Tripoly, Cairo, and Alexandria, it is very unlikely that any considerable ruins should exist within three or four days of Seewa, and unknown to them; still less so, that they should be ignorant of any fertile spot, where might be found water, fruits, and other acceptable refreshments:" since their visits to Seewa appear to be for the purpose of "furnishing themselves at a cheaper rate with many articles of food, than they can be in the towns of Egypt."* It may be added, that Mr. Browne himself approached it by the NE, left it by the NW, and fairly made a tour round it, at the distance of two to three days journey, from his station in the NW, passing it to the south, at the distance of 32 G. miles (for he went into the parallel of 28° 40'†), and thence falling again into the route to Alexandria.

Thus he gained a parallel, *far beyond* the utmost range allowed by the ancient writers, to the Oasis of Ammon; we mean those who describe its position by *distances* from *known* places. Ptolemy indeed, in his tables, carries it so low as 28°; but then he places Augela, which is known to be in about 30°, in the same parallel with Ammon. Two of the people of Seewa accompanied Mr. Browne, in his expedition to the south-west, and as they originally proposed to carry him to a watering place, in that quarter, it is obvious that they know the country to the distance of two and a half or three days. Besides, it is altogether improbable, that, from their habits of life, and communications with those who traverse the Lybian Desert, they should be unacquainted with any fertile spot that may exist in that quarter.

Before we quit the subject of the geographical position of this place, it will be proper to say a word concerning Ptolemy's geo-

* Mr. Browne's Travels, p. 22. † Ib. p. 27.

graphy of this quarter (since his residence in the neighbourhood ought to add weight to it) making due allowances for a distorted construction, arising from excess of longitude: and in the *present* case, to errors of latitude, almost equally gross: so that *relative position*, and not the scale of distance, is to be regarded.

In Ptolemy (Africa, Tab. III.) we find *Siropum** answering to Karet-um-el Sogheir, in its relative position to *Ammon*, the *Fons Solis*, and the *Lesser Oasis*; if we allow the *three* latter to be represented in modern geography by Seewa, (or Santariah) Aïn Caïs, and the Oasis which contains Bahnasa.

Between Siropum (say El Sogheir) and Memphis, in the position in which we should look for the mountainous Desert of *Le Magra*, which is seven journies across,† there is found in Ptolemy a corresponding tract of mountainous country under the name of *Ogdamos*. Again, at the distance of 64 miles on Ptolemy's scale, to the SW of Siropum, stands the city of *Hammon*, unquestionably meant for the temple and capital of the Ammonians. The reader will perceive, by a slight reference to the Map, at page 545, that these places lie in respect of each other, as Seewa and El Sogheir do. Ptolemy has 205 G. miles between Parætonium and Ammon, instead of our 120: and it will appear that the 64 bear much the same proportion to the 205, as the distance between El Sogheir and Seewa, does to our 120. This is a marked circumstance, and worthy of attention.‡

* *Sirpicum*, in Solinus.

† Proceedings Afr. Assoc. for 1790, chap. x. and xii.

‡ It may not be amiss also to state a particular or two, that occurs in the road from Cairo through *Temissa*, &c. given by Edrisi, as they throw some light on Ptolemy's geography of the parts near Ammon.

From Bahnasa (in the *Wah*) four stations, according to Edrisi, reach to *Aïn Caïs* (or fountain of Caïs) which therefore should be about five days short of Seewa or Santariah: for although the road does not *appear* to lead through that town, or Oasis, yet, from circumstances, it cannot pass far to the southward of it. Now we find

And lastly, though not less to the purpose, the bearing of Ammon from Parætonium, in Ptolemy, has a general agreement with the bearing of Seewa, from the same place, according to the observations of Mr. Browne: the former being S 22 W, and the latter S 11 W; whilst the bearing of Ammon, resulting from the ancient authorities, generally, is S 20 W; and Santariah, by the Arabian geographers, S 18 W.*

The three Oases, then, will form nearly a right angled triangle, whose legs, facing the N and E, will be nearly equal; that is, the Lesser Oasis will represent the right angle at the north-east, the Greater Oasis the southern extremity of one leg, and the Oasis of Ammon the western extremity of the other.

Thus far we have proceeded merely on the ground of geographical agreement, between the position of the Oasis of Seewa, and that of Ammon. But there are so many circumstances of agreement also between the ancient and modern *descriptions*, that had the former proofs been less strong, these *alone* might, perhaps, have sufficed: so that there is an agreement throughout.

We shall therefore collect the scattered notices that occur in the ancient authors, and compare them with those furnished by Mr. Browne; whose candid and modest exposition of them, entitle him

in Ptolemy, much in the same relative position, and at the same proportions of space, respectively, from the Lesser Oasis, and from Ammon, (that is, $\frac{4}{9}$ from the *Oasis*, $\frac{5}{9}$ from Ammon) the *Fons Solis*; which therefore agrees to *Ain Cais*.

Again, at a station eight journies from Bahnasa, which should be about one journey *short* of being *opposite* to Seewa, the river *Costara* occurs in the same route: and it being the only *running* water mentioned in the whole route, nothing appears more likely, than that it should be formed of the springs that rise in the Oasis of Seewa.

* It should be recollected that Mr. Browne had no opportunity of comparing the relative positions of Parætonium and Seewa: it is possible, therefore, that Seewa may bear more to the west. It is placed in the Map, according to its latitude, and distance from the coast; whence it bears about S 13 W from Parætonium, and stands in longitude 26° 18′.

to the firmest belief: and who, whilst he only contends for the *antiquity* of the edifice, so adventurously discovered; and its originality, as a work of the ancient Egyptians; allows the facts to speak the strongest language for themselves, and to pronounce it the veritable remains of the temple of Ammon.

Diodorus (lib. xvii. c. 5.) says, that the Oasis of Ammon is 50 stadia in length, and the *same* in breadth. Arrian, (lib. iii.) says, little more than 40. [The highest of these statements, supposing the *Roman* stade to be meant, is rather short of six B. miles.] It lies in the midst of an extensive and arid desert.

—"It is full of pleasant fountains: watered with running streams, and planted with all kinds of trees; most of them bearing fruit." (Diodorus.)

"It is planted with *olive* and *palm* trees, and watered with dews." (Arrian.)

"It is watered with *many* streams, and *encompassed* with trees, that grew so thick as to skreen it on all sides from the rays of the sun." (Curtius, lib. iv. c. 7.)

And, "The temple and palace stand in the middle of a wood:

Mr. Browne, (p. 23,) says, "The Oasis which contains the town of Siwa, is about 6 miles long, and $4\frac{1}{2}$ or 5 wide." And (p. 17,) "Siwa answers the description given of the Oases, being a small fertile spot, surrounded on all sides by desert land."

"Water, both salt and fresh, abounds: but the springs which furnish the latter are most of them tepid." (P. 24.)

"A large proportion of the space is filled with date trees *(palms)*; but there are also pomegranates, figs, and *olives*, apricots and plantains; and the gardens are remarkably flourishing.—They cultivate a considerable quantity of rice:—the remainder of the cultivable land furnishes wheat enough for the consumption of the inhabitants." (P. 23, 24.)

and in a second wood, is the *Fountain of the Sun.*" (Ib.)

Strabo only speaks generally of its abounding with *water* and palms. Page 838.

"In the middle of the sacred grove, inhabited by the *Ammonians*, is a castle fortified with a triple wall, &c. containing the temple, palace, and a place of arms; and not far from the castle, stands *another* temple of Ammon, shaded round with many fruit trees; next to which is a fountain called *Solis*," &c. (Diodorus.)

Herodotus speaks of the temple, the oracle, and the kingdom of Ammon, in different places: as in Euterpe, 32, 42, 55: Melp. 181. "The Egyptians, (says he) call Jupiter, AMMOUN:" and it appears that its antiquity was equal to that of the oracle of *Dodona*: Euterpe, 54, 55.

Diodorus says, (xvii. 5.) that "it was reported, that this temple was built by *Danaus* the *Egyptian*."

It may be remarked that the Arabian geographers are silent respecting any remains of anti-

—"It was about half an hour from the time of our entering on this territory, by a path *surrounded* with *date trees*, that we came to the *town*, which gives name to the district." (P. 17.)

"We passed along some shady paths between gardens, till at the distance of about two miles, we arrived at what they called the *ruins*, or *Birbe*." (P. 19.)—"It resembles too exactly those of the Upper Egypt, to leave a doubt that it was erected and adorned by the same intelligent race of men. The figures of Isis and Anubis are conspicuous among the sculptures: and the proportions are those of the Egyptian temples, though in miniature. The rocks which I saw in the neighbourhood, being of a sandy stone, bear so little resemblance to that which is employed in this fabric, that I am inclined to believe the materials cannot have been prepared on the spot." (P. 27, 28.) In p. 19, he says, "it is built of massy stones, of the same kind as those of which the pyramids consist."*—

* More will be said in the sequel respecting this remarkable edifice.

quity, in *Santariah* (i. e. *Seewa*); but *M. Schlichthorst*, (in his *Geographia Africæ Herodotea*, p. 151, 152.) says, that "some remains of the temple of Ammon are still to be seen, if the travellers to *Mecca* may be credited; the place is called *Hesach-bir*, or *Mole Lapidum*."

Herodotus describes, Melp. 181, "the Fountain of the *Sun*," at Ammon; said to vary in its temperature, so as to be *warm* in the morning, but *excessively cold* at noon, &c.—He adds, that when it is coldest, they use it to water their gardens.

Arrian, Diodorus, and Curtius, all speak of it much in the same way. The two latter agree with Herodotus in saying that the water is *boiling hot* at midnight. And this remarkable spring, Diodorus places at, or near, the *lesser* temple: but Curtius, in a grove, which was distinct from the larger grove: and it is Diodorus *alone*, who speaks of a second temple; and therefore it is probably a mistake.

Herodotus and Strabo speak generally concerning the saltness of the soil, of this region: and

"The soil around seems to indicate that *other buildings* have once existed near the place; the materials of which either time has levelled with the soil, or the natives have applied to other purposes. I observed, indeed, some *hewn stones* wrought in the walls of the modern buildings."—(P. 20.)

"One of those springs, which rises *near the building* described, is observed by the natives to be sometimes *cold*, and sometimes *warm*." (P. 24.)

Approaching Siwa, (p. 17.) Mr. Browne says, "I observed through a large portion of the

Strabo speaks also of the oyster and other shells, that abound in the quarter about Ammon. (P. 49.)

Arrian says, that the country about Ammon produces a kind of fossile salt.—Lib. iii.

"The Ammonians are composed partly of *Egyptians*, and partly of *Ethiopians:* and their dialect is formed promiscuously of both those languages."* (Euterpe, 42.)

road, that the surface of the earth is perfectly covered with salt." And, p. 26, "After the rains, the ground in the neighbourhood of Siwa, is covered with salt, for many weeks."

"The *complexion* of the people is generally darker than that of the Egyptians. Their *dialect* is also different—among those whose *costume* was discernible, it approaches nearer to that of the Arabs of the Desert, than of the Egyptians or Moors."†

* The Arabian geographers say of Santariah, that the inhabitants are a mixture of *Berbers*, (Barbarians) and Arabs.

† Mr. Browne visited certain *catacombs*, in a rocky hill, close to the Oasis of Siwa. (P. 21.) They were about 30 in number: of dimensions 12 feet in length, 6 in breadth, and about the same height. This is mentioned, merely to shew, that Egyptian customs had prevailed there.

In the next place, we shall give the short descriptions of *Santariah*, that are found in the Arabian geographers.

Jacutus (quoted by Hartmann, in his Edrisi, p. 495), speaking of the three regions of Al Wahat, or the Oases, says, "The third is named the *Wah* (or Oasis) of the city of *Simmaria*, or *Sanmaria*, (meaning no doubt *Santariah*), in which are abundance of palms; and mineral waters, which the inhabitants drink; but which are prejudicial to the health of strangers."‡

‡ Mr. Browne says of Seewa p. 24, "Such is the nature of the water, air, and other circumstances, that strangers are often affected with agues and malignant fevers."

Edrisi (Hartmann, p. 303, from the Parisian MS.) says, "Santariah is a small city, where there is a *Minber:* (pronounced *Mimber:* a pulpit or raised place, from whence the Koran, &c. is read).* The inhabitants are a mixture of Berbers and Arabs. Palms are in abundance, but there are few fountains."

Abulfeda says that it is "an island in the arid Desert, surrounded with hills. That it is watered, and abounds with palms. Moreover, that it produces a pomegranate, that is at first bitter, but becomes sweet, when ripe; and that it proves unwholesome to strangers." (Africa, Tab. III. marginal notes). Perhaps this latter particular, was originally meant to be applied to the water; as it then agrees with Jacutus. Part of the sentence might have been misplaced.

Lastly, Ibn al Wardi thus speaks of Santariah: Hartmann, p. 303.

"Schantaria is a tract or country, which has a city of the same name. It is inhabited by Berbers mixed with Arabs. In it are found iron mines. Between this city and Alexandria, there is a great desert, &c."—Thus far the brief descriptions of Santariah; which, as far as they go, apply equally to Seewa. We shall add to these, two remarks: the one, that those authors who have mentioned *Santariah*, have been silent respecting *Seewa:* a place, surely, of too much importance to have been passed over. The other, that M. Delisle, in his Geography of Africa, 1707, has a city which he names *Si-ouah, ou Sant-rie*, in the position proper to Santariah. It is possible that M. Delisle had positive information to this effect.

To this may be added, that the people of Seewa, appeared to Mr. Browne to be ignorant of the name Santariah.

On the whole, it will be difficult to overthrow the weighty evi-

* The Author is indebted to his friend Mr. Wilkins, for this explication. It is to be recollected that Edrisi wrote early in the 12th century, at which time, the Mahomedan religion might not long have been introduced into this place. It may be observed that the inhabitants "are not in the habitual use either of coffee or tobacco;" (Mr. Browne, p. 25); which seems to arise from their secluded situation.

dence, in proof of our position, that Seewa is the long sought for Oasis of Jupiter Ammon; and that Santariah is only another name for Seewa; a fact of considerable importance in the question, as it precludes that doubt and uncertainty, which a choice of places, possessing equal pretensions to the claim of preference, must have necessarily occasioned. As it may be conceived that the truth will appear yet clearer, by a close comparison of the edifice at Seewa, with the Egyptian architecture, and more particularly with that of the remains of the temples in Upper Egypt, we shall enter somewhat at large, into the subject; prefacing it with some observations on the oracles and worship of Ammon.

Temples of JUPITER AMMON.

Herodotus speaks of FOUR oracles of Jupiter; that is, at Egyptian Thebes; at Lybian Ammon; at Dodona in Greece; and at Meroe the capital of Ethiopia. He says, that the one at Thebes was the *original* temple of that worship; and those of Ammon and Dodona, were derivations from it.

If Herodotus was rightly informed concerning the establishment of the oracles at Dodona and Ammon, his report allows a high degree of antiquity to them: for he says, that when the Pelasgi consulted the oracle of Dodona, it was the *only one* in *Greece*, and was also by far, the most ancient of them all. Euterpe, 52. And, in 54, 55, he tells us that the oracle of Ammon was established at the same time with that of Dodona.*

* Herodotus was told by the priests of the Theban Jupiter, (Euterpe, 54, 55,) that the two oracles of *Dodona* and *Ammon* were first established by two priestesses, who were violently carried away by the *Phœnicians*: and at *Dodona*, that they were established by two black *pigeons* which flew from *Thebes*. He infers, not improbably, (57) that by these are meant two *black women*. It has been observed, that the same word in the *Thessalian* language signifies *dove* and *prophetess*.

He gives an instance, Euterpe, 52, of the simplicity, as well as the good intentions of the PELASGI. "These (says he), as I was informed at Dodona, formerly offered all things indiscriminately to the gods. They distinguished them by no name or surname, for they were hitherto unacquainted with either; but they called them GODS, which by its etymology, means DISPOSERS, from observing the orderly disposition and distribution of the various parts of the universe. They learned, but not till a late period, the names of the divinities from the Egyptians, and Bacchus was the last whom they knew. Upon this subject, they afterwards consulted the oracle of Dodona, &c. They desired to know whether they might with propriety adopt the names which they had learned of the Barbarians, and were answered, that they might; they have accordingly used them ever since in their rites of sacrifice; and from the Pelasgi they were communicated to the Greeks." It had perhaps been better for mankind, if they had been content to follow the example of the Pelasgians, in agreeing not to dispute about matters, concerning which, the wisest are so ignorant, that pretended explanations only serve to provoke fresh disputes.

He allows that the Greeks derived from Egypt not only the names of almost all the gods, but with them, many circumstances of religious worship, also. And, says he, "that they are of *barbarian origin*, I am convinced, by my different researches." Euterpe, 50. Much the same is also said, in Euterpe, 4.*

It must be acknowledged that the heathen mythology appears to ordinary readers, to be, not only a collection of childish fables, but also contradictory to itself, in many important points; as it is related by the different authors who have attempted to give systems of it. The less therefore, perhaps, that is said about it, the better. But since Herodotus himself allows that the Greeks borrowed so largely from the Egyptian mythology; and since also, Diodorus says, that

* There were, in Egypt, not only oracles of *Jupiter*, but also of *Hercules*, *Apollo*, *Minerva*, *Diana*, *Mars*, and *Latona*. (Euterpe, 83.)

the Egyptians, in imitation of the Ethiopians, DEIFIED their GOOD KINGS; why may not this Jupiter have been the king of Egypt and Lybia, mentioned by Diodorus; the same whom he also says was named AMMON; and the establishment of whose temple and oracle he refers to his son DIONYSUS? Diod. lib. i. c. 1.: and iii. c. 4.

The name Ammoun or Ammon, is universally explained by the ancients, to mean the same as Jupiter, amongst the Africans.* "The Egyptians, (says Herodotus, Euterpe, 42), call Jupiter, Ammoun; and I should think, this was the reason why the above people named themselves Ammonians." (He was speaking of the Ammonians of Lybia).

He observes (58), that the two oracles of Egyptian Thebes and Dodona, "have an entire resemblance to each other."† And although he does not say the same of Ammon, yet no other idea can be inferred, from what is said of it. For laying out of the question, the story of the *two priestesses*, and of the *two black doves*, (allegorical of the same story) it is certain, that he speaks in other places, as if the oracle of Ammon resembled at all points, in respect of its religious ceremonies and institutions, that of Thebes. Thus he styles it, equally with that of Thebes, "the temple of the Theban Jupiter:" Clio, 182. "The Ammonians, who possessed the temple of the Theban Jupiter, ten journies from Thebes:" Melpom. 181. "The oracle of Jupiter amongst the Ammonians:" Thalia, 25. "The Ammonians borrowed from Thebes the custom of covering the head

* Jupiter was named Ammon at *Carthage* as well as in Lybia. Diodorus.

† "And thus," says he, "the art of divination as now practised in our temples, is derived from Egypt: at least, the Egyptians were the first who introduced the sacred festivals, processions, and supplications; and from them the Greeks were instructed. Of this, it is to me a sufficient testimony, that these religious ceremonies are in *Greece* but of modern date, whereas in *Egypt* they have been in use from the remotest antiquity." Euterpe, 58.

Herodotus himself was a believer in divination; or feigned to be such. See his declaration, in Urania, 77; and the account of *Melampus*, in Euterpe, 49.

of the statue of Jupiter, with the skin of a ram's head :" Euterpe, 42. From all which, we should conclude, that the temple or oracle of the Lybian Jupiter, like that of Dodona, resembled the temple of Thebes.

Herodotus and Diodorus assign different reasons for placing the head of a ram on the statues of Jupiter; and for using the representation of the same animal, or a part of it, as the symbol of the DEITY.

Herodotus says, Euterpe, 42, that " before Jupiter shewed himself to Hercules, he covered his head with the skin taken from the head of a ram: and hence (says he) the Thebans abstained from eating of sheep; esteeming the ram as sacred, and only killing one on the annual festival of Jupiter, in order to place the skin on the image of the god." But Diodorus says, lib. iii. 4. that it was done, because *king Ammon* wore a helmet in the shape of a ram's head. These possibly may have been stories invented, with a view to satisfy the vulgar, after the true reason had been long forgotten. We are aware that the symbol of the ram has been referred to the sign Aries, or the commencement of the year: but to believe this, we must first forget, that we trace more of vulgar prejudice and superstition, than of philosophical and scientific reasoning, in the rites of most of the popular religions that have existed in the world, and do still exist. The fact most probably is, that after the customs and ceremonies had been long in use, men of learning and ingenuity found out analogies that never existed; and thus formed a system. For mankind begin with experiments, and systems are formed afterwards; and then, forgetting by what gradual steps they proceeded, they are fond of believing that they began with a system; as that idea flatters their pride, more than the other.

The ancients speak of FOUR temples in or about Thebes: of which, the one whose remains have been described by Pococke, Norden, and others, is universally referred to Jupiter: and, in effect, the city of Thebes itself was named *Diospolis* by the Greeks,

from its being considered as the city of Jupiter. Strabo, who had himself visited Thebes, (see page 816), speaks of a temple of Jupiter there.*

It appears that amongst the remains of *two* of these temples, there are found certain parts or members, which bear a resemblance to the edifice discovered by Mr. Browne; and one of them, in particular bears a most striking resemblance to it. It may be proper to remark here, that we speak not only from the brief description in Mr. Browne's book, but also from a drawing exhibited some years ago in this country, as a copy of that, which this gentleman drew, from memory, after he had left the place; for the history of his reception and treatment at Seewa, plainly prove that it was unsafe to attempt to draw a view of the building on the spot.

We mean to speak only of the *inner* temples, or *sanctuaries*, of the Egyptian temples, since those structures, taken at large, are quite out of the question, in respect of any similitude to the building at Seewa.

Within the body of the great temple at Thebes, is a room of *granite*, supposed by Pococke and others, with some reason, to be the inner temple or sanctuary mentioned by Strabo.† Pococke

* Since we learn from Herodotus himself, Euterpe, 3, that he had visited Thebes, (as well as Heliopolis) it is exceedingly difficult to account for his silence respecting its *stupendous* remains, and the history of its kings. Could the same person who entered so far into the history and description of the Pyramids of Memphis, have viewed the remains of the temples, and the sepulchres of the kings, at Thebes, without being so deeply impressed, as at least, to speak of them!

It may also be remarked, that he says nothing concerning the buildings at *Persepolis*, or at *Pasagarda*; but then it is not pretended that he visited these places.

† This is Strabo's brief description of the Egyptian temples; p. 805.

"At the first entrance is a court or avenue, paved with stone, about 100 feet wide and 3 or 400 feet long; sometimes more: this is called the *Dromos*. On each side are sphynxes, in two rows, about 30 feet asunder. After this, is one, or more, vestibules. After that is the temple, which consists of a large court or ante-temple, and an *innermost* temple, which is not very large, and in which there is no sculpture; or at least, if there is, it is of some beast, but never of the human figure. At the farther

also, as well as Lucas, saw a building, similar to it, in a ruined temple at *Armant*, which is the ancient *Hermonthis*, situated in the environs of Thebes; and where there was also, as we are told by Strabo, page 816, a temple of Jupiter. This building was surrounded by the ruins of a larger temple; and appears to have been placed much in the same relative situation within it, as that of Thebes to its temple. The edifice seen by Mr. Browne (or rather the remains of it, as one of the end walls was in ruins), was indeed of smaller dimensions than the others, in respect of length, although in breadth and height, not very different. But the points of direct resemblance between those of Hermonthis and Seewa, are in the roofs; which in both, consisted of vast blocks of stone laid across the vacant space from wall to wall: and in the walls and soffits being covered with emblematical figures and hieroglyphics.

From the description of the temple at Seewa, in the note, its general resemblance to the Egyptian style of building, as found in Pococke, Norden, &c. must strike every one: but the descriptions of the temple at Armant, from Dr. Pococke and P. Lucas, which are also subjoined, will place the matter in a yet clearer point of view.* We propose also to enter more at large into the descriptions

end of the ante-temple are a sort of wings, of the height of the temple; and the walls as far distant from each other, as the breadth of the foundations of the walls of the temple: and are so built, as to *incline towards each other*"—(Here the original appears to be corrupted.—If it meant that the walls approached each other, on the ground plan, that is contradicted by the remains of the temples at Thebes, and Hermonthis: and no other kind of inclination can well be conceived.) He concludes by saying that " on these walls, very large figures are cut, much like the *Etruscan* and *Grecian* works."

* Mr. Browne's description of the edifice at Seewa, pages 19 and 20.

" It was a single apartment, built of massy stones, of the same kind as those of which the pyramids consist, and covered originally with 6 large and solid blocks, that reach from one wall to the other. The length I found thirty-two feet in the clear; the height about eighteen, the width fifteen. A gate, situated at one extremity, forms the principal entrance; and two doors, also near that extremity, open opposite to each other. The other end is quite ruinous; but judging from circumstances, it

of the inner temples of the Upper Egypt, as well as into a more detailed comparison, between the temple of Hermonthis, and the remains of that at Seewa.

It is well known, that the Egyptians formed the roofs of their public buildings entirely of stone; that is, of long blocks laid across the open spaces in the nature of *beams*, and then laying shorter ones across them to fill up the remainder of the vacant space. This was

may be imagined that the building has never been much larger than it now is. There is no appearance of any other edifice having been attached to it, and the less so as there are remains of sculpture on the exterior of the walls. In the interior are three rows of emblematical figures, apparently designed to represent a procession: and the space between them is filled with hieroglyphic characters, properly so called. The soffit is also adorned in the same manner, but one of the stones which formed it is fallen within, and breaks the connection. The other five remain entire. The sculpture is sufficiently distinguishable; and even the colours in some places remain."

P. Lucas's description of the inner temple at Hermonthis, Vol. ii. p. 120.

"The *choir* of the temple is still entire; such as it is seen in the drawing. It is filled within and without, with figures, in which may be recognised the ancient divinities of Egypt. At the end of this choir is a little *sacristy*, where are discovered some bas-reliefs, which seem the work of a skilful hand, and which are so well preserved, that they appear as if just made. This chapel, or this sacristy, whichsoever name one chuses to give it, is covered with five stones, each twenty feet long, five wide, and two feet eight inches in thickness: supposing them all to be equal to that which I measured."

Dr. Pococke, Vol. i. p. 110.

"The ante-temple is very much destroyed; the inclosure round it, and the temple itself, are very particular, but little remains except the foundations. The *inner* temple is entire; there are stairs up to the top, through the wall, which is about 25 feet high: it is adorned with hieroglyphicks within and without. On the outside are four stories of hieroglyphicks of men, but only three appear within. In the ceiling of the first room there are five hawks with spread wings: in the second room seven, and two *rams* face to face; the rest of the ceiling is adorned with stars, and on each side are some small hieroglyphicks with human bodies, and the heads of a great variety of beasts," &c.

the ordinary mode; but in some cases (as in that of Armant, &c.) the roofs were formed entirely of vast blocks, lying parallel to each other.

The Egyptian mode of roofing, induced, no doubt, the necessity of placing so many columns in the interior of their grand edifices. Want of timber gave birth to this system of architecture, which the plenty of good stone enabled them to pursue: and to this state of things we owe the massive style, and consequent duration of their vast piles of building; unequalled throughout the world, in bulk, solidity, and length of existence!

Dr. Pococke enters at large into the nature of their roofing. He says, p. 215, that the stones employed in this way, as beams, are about 14 feet long, 3 wide, and as many deep.* This must be regarded as the ordinary practice; but this was nothing in comparison of the vast masses of stone, which the Egyptians were in the habit of using. Dr. Pococke says, page 61, that "the whole building (of the *Labyrinth*) was covered with stone; doubtless laid on the massy pillars that were in it." And also, page 63, that the four rooms in the building taken for the temple of the Labyrinth, the largest of which has a compass of 25 feet, "are covered with large stones of such a length as to be laid from wall to wall." The great temple at *Tentyra*, by the plan at page 86, requires blocks of 40 feet in some parts of it. The inner temple at Thebes, which had a span of 19 feet only, might require blocks of 22: and as P. Lucas says of the edifice at Armant, that it is covered with blocks of 20 (French) feet in length, 5 wide, and 3 deep, we have here an example, in the very environs of Thebes, that stones of these dimensions were used in roofs.

But Dr. Pococke has not said how the roof of *this* edifice was

* Diodorus describes much the same kind of roofing, in the sepulchre of Osmandyas. (Lib. i. c. 4.) The stones he says were 8 cubits, say 13, or more feet, in length; and the ceiling *azure, bespangled* with *stars*. These stars are noticed by Pococke, at Armant: and by Mr. Browne at another place.

constructed, although he describes its sculptured ornaments. It is Lucas alone, who has given us the important information, which is even more satisfactory, from his not having seen the remains at Thebes.* He has given a coarse drawing of it, (in Vol. ii. p. 119, of his Third Voyage); and which has a great resemblance to that of the temple at Seewa.

This, as we have already seen, is also covered with blocks of stone; which, as the building itself is 15 feet in breadth, and as they also form a kind of *corniche* without, to which is to be added also, the thickness of the walls; they cannot well be less than 21 feet in length. They are described to be five in width, and three in depth; corresponding almost exactly to those at Armant; but as this latter was covered with five blocks only, so that of Seewa had six. Not that the number of stones is decisive of the length of the building, at Armant; for by Dr. Pococke's plan, at page 110, it appears that it is only the large room in the middle, which *requires* blocks of that length; the whole structure being divided into three rooms, of which, the smaller ones at the ends, being mere closets, or slips, might have the stones that formed their roofs, laid in the direction of the *length* of the building. For, as the principal room occupied 26 feet, of the whole length of the edifice, which was 46 only, it is obvious that the end rooms must have been very narrow.

These *inner* temples or *sanctuaries*, at Thebes and Hermonthis, have certain points of similitude to each other, in their individual proportions, which seems to be the effect of design, although their bulk bears no kind of proportion to those of their respective including temples. First, the inner temple at Thebes, which Dr. Pococke calls "the small granite room," is about 60 feet long, by 19 wide, and 20 in height,† *within*; divided in its length into two equal

* He was prevented by illness.

† See Dr. Pococke's Plan and Elevation of the Grand Temple at Thebes, at page 92; and the description of the granite room, in page 95.

apartments of somewhat less than 30 each. That of Armant is 46 by 16, and 22 in height.* So that the proportions of these two, are about *three* to *one*, of the length to the breadth; whilst that at Seewa, as it *now appears*, has a proportion of about *two* to *one*. It is not however, certainly known, whether it might not have been continued to a greater length, beyond the end that is in ruins; and whether there might not have been a second room, roofed with smaller blocks, which may have been removed, and applied to other uses; although those of the large room may be as useless, as they are unmanageable, to the modern inhabitants of the Oasis. It may even be a question, whether the block, said to be fallen down, was not displaced by the operation of removing the end room, and the wall of separation.

In the next place, the two inner temples of Thebes and Hermonthis, occupy the same relative situations: they both stand *apart* from the greater temples, and within *high walls* adjoining to them; according to the description of Strabo, p. 805.†

Again, both are built of *granite*;‡ the most *precious* material for building, in that quarter, from the excessive cost of the workmanship; whence may be inferred the important or sacred use to which they were appropriated. Dr. Pococke is of opinion, that it was the residence of the beautiful and noble virgin, who devoted herself to Jupiter. Strabo, page 816.

Respecting the ornaments of the *inner* temple at Thebes, we are left in ignorance, by the persons who have visited it; otherwise than that Dr. Pococke says, that it had a rich *cornicbe*; of which

* See the Doctor's plan and description, at page 110 of Vol. i.

† See above, page 595. These walls certainly bore no roofing at Thebes. If they had, there would have been no necessity for a *particular* roof to the sanctuary: and we must conceive the same at Armant.

‡ This we learn of the one at Thebes, from Pococke; but of that at Armant, from Savary, alone. It has been doubted by some, whether Savary ever visited Upper Egypt: however he may have collected this fact, from others.

he gives a drawing, at page 219.* This is much to be regretted, as it leaves no opportunity of comparing so important a part of the design, with those of Armant and Seewa; which, as it may be perceived, have on the whole, a nearer agreement with each other, than those of Armant and Thebes: at least, as far as we are able to make a comparison. Such is the nature of the roofs; both of which, as we have seen, are formed of blocks, of the length of about 21 feet, by $5\frac{1}{3}$ wide, and 3 in depth, indicating nearly an equal breadth between the walls, in both structures, and differing in the length of the part, thus covered, by the breadth of one block; for the temple at Armant has only five, that at Seewa, six.†

In the next place, there are precisely the same number of rows of sculptures, on the walls, *within*, in both of these edifices; that is, THREE. That at Armant has FOUR, *without*:‡ but as to that at Seewa, Mr. Browne seems to have found the sculptures on the outside, too much defaced to enable him to form any judgment of the particulars. It was reported at Rome, that Mr. Browne thought he discovered two figures with *rams' heads*, which appears highly probable. The materials at Seewa, were not of so durable a nature, as those of Armant and Thebes: and therefore have not preserved the original impressions.§

From what has appeared, a doubt can scarcely be entertained that the fabric at Seewa, is of Egyptian origin, and of very high antiquity. Nor can it well be doubted, that it had a relation to the worship of Jupiter Ammon, even by those who may doubt its being that famous

* Strabo, in his description of the Egyptian temples, says, that there are no sculptures of *human* figures in the *inner* temples, or *sanctuaries*. But this does not agree with the reports of Pococke and Mr. Browne.

† The blocks at Seewa must have been 5½ English feet broad, in order for six of them to cover a space of 32 feet. The five French feet reported by Lucas, at Armant, would be much about the same.

‡ Pococke, page 110. Lucas agrees in his drawing, page 119.

§ Mr. Browne says, the stones are "of the same kind, as those of which the Pyramids consist." (Page 19.)

temple, itself. If it be objected that more remains ought to be visible, it can only be answered, that Mr. Browne saw, in the soil around it, indications of the existence of former buildings: and that he also saw some *hewn stones* that were wrought into the walls of the modern houses. Moreover, it may well be said that the transient view alone, that he was allowed to take of the place, generally, will not warrant a decision of the question, whether there be, or be not, in the island, the materials of the edifices described by the ancients.*

There is no reason to suppose that the rest of the temple is buried in the sand, because the description of the site allows no ground of supposition that the level has been raised; the doors appearing to remain of a proper, and of a proportionable height. A mass of sand sufficient to cover the fallen ruins, must have buried a considerable proportion of the sanctuary; admitting it to have been a constituent part of a large temple. No such state of things appears: the room is still 18 feet in height, which is about the proportion it ought to bear to the sanctuary at Thebes, but below that of Armant. But could it for a moment be supposed, that the ruins of a temple were covered with sand, in the middle of the Oasis, what must have been the state of the Oasis itself? Had it been the nature of the place for the sand to collect, as it has done against the sides of the Pyramids, and about the Sphynx, it is probable that no *Oasis* would ever have been formed, in that place; because the vegetation must have been constantly choked up, and covered with sand, as often as it appeared.

It is unquestionable that the worship of Jupiter in Ethiopia, had an establishment of *sacella* or chapels attached to the principal temple

* As Mr. Horneman (who is employed by the African Association) was to proceed from Egypt to Fezzan, with the caravan, his route would naturally lie through Seewa. Probably some new lights may be afforded by him: especially if he was apprized of Mr. Browne's discovery, whilst he resided in Cairo: which one might expect, he would have been.

in *Meroe*.* And was there any circumstance on which to found a belief of the existence of any other Oasis in the quarter of Seewa, it might perhaps be suspected that the edifice there, was a *sacellum* to the larger temple of Ammon. But we trust that the concurrence of so many particulars in the ancient descriptions, with what appears at present, at Seewa, will effectually do away any such supposition. Such is the striking agreement of the geographical positions; together with the attendant circumstance of there being no other place, that answers, in any shape, to the description. To this may be added, the accordance, in point of *form* and *dimensions*, of the Oasis itself: the similarity of productions; and to crown all, the fountain which varied in its temperature, at different times.

The discovery of the temple itself, and the circumstances belonging to the Oasis, which contain it; together with the operation of fixing its geographical position, to a degree of exactness sufficiently critical to admit of a comparison with the ancient descriptions; could not, perhaps, have been accomplished, otherwise than by the zeal, perseverance, and skill, of an European. Mr. Browne is therefore entitled to great praise, for his spirit of enterprize, which bade defiance to the hardships and dangers consequent on an undertaking, similar to that which has been so much celebrated in the history of the Macedonian conqueror: and which was unquestionably per-

* Both Herodotus and Pliny, in speaking of Meroe, in *Lower* Ethiopia, describe a temple, or oracle of Jupiter there. Herodotus says, "the inhabitants pay divine honours to Jupiter and Bacchus only; but these they worship with the most extreme veneration. At this place, (Meroe) is an oracle of Jupiter, whose declarations, with the most implicit confidence, they permit to regulate all their martial expeditions." Euterpe, 29.

Pliny says (lib. vi. 29.) "In this city is a temple, in honour of Jupiter Ammon; a place of great sanctity and devotion: and around that tract, there are many *sacella*, (or chapels)." The tract meant, is the country between the Abyssinian branch of the Nile, and the river *Tacazze*; usually regarded by the ancients, as the *Island* of *Meroe*: from whence, possibly, the worship of Jupiter descended to Egypt.

formed with much more *personal risk* on the part of our countryman, than on that of Alexander.*

It is possible that the remains so often alluded to, may appear to ordinary readers, to be much too insignificant to interest the mind, as a remain of antiquity; and therefore may not answer the expectations formed of the magnitude, and grandeur of style, of the temple of Jupiter Ammon. To such, it can only be said, that it bears the stamp of Egyptian origin; and is only pretended, at the utmost, to be a sanctuary of a greater temple, whose materials may probably be found in the form of ordinary habitations, or otherwise, in the Oasis. The dilapidations may have been going on, for these 1800 years past: the columns may have been converted into millstones, as is the practice in Egypt: or split into convenient sizes for walling.† The part remaining, is evidently that, which is the least adapted to ordinary occasions; and which could not, at any rate, be removed with safety; since the impending blocks of the roof must deter every one from venturing to displace the stones that support them.‡

But even considered as a *ruin*, and independent of its historical importance, the circumstance alone of its having blocks of stone, which approach towards the dimensions of the uprights of Stonehenge, raised in the air to form its roof, is fully sufficient to give it an air of importance, and singularity.

These sentiments are entirely the effect of conviction, on the part of the Author, on occasion of the disclosure of Mr. Browne's route to Seewa, in his Travels, just published. He had previously adopted a contrary opinion; but it arose from a misconception of the position

* For the account of the journey of Alexander, see Arrian, lib. iii.; Diodorus, lib. xvii. c. 5.; Strabo, page 816; and Curtius, lib. iv. c. 7.

† See Volney's Travels, Vol. i. c. 19.; and Mr. Browne's Travels, page 10. The latter describes a very ingenious mode of dividing the columns.

‡ See the Section on ancient Babylon, p. 377, 378.

of Seewa, which was reported to be at a less distance inland, by three journies. He always supposed *Santariah* to be the Oasis of Ammon, and as such it appears in the Map of North Africa, 1798. It now appears, that Seewa is the same with Santariah: and, of course, his opinion is not changed in respect of the position of Jupiter Ammon.*

* Santariah, in the Map of North Africa, 1798, is placed in lat. 29° 5′, lon. 25° 45′. We have placed it above, on a revision of the authorities, in lat. 29° 9′, lon. 26° 5′.

SECTION XXII.

OF THE TRIBES WHO INHABITED THE COAST, AND COUNTRY OF LYBIA, BETWEEN EGYPT AND CARTHAGE.

Lybia possessed by Nomadic Tribes.—Adyrmachidæ—Gilligammæ.—*Island of* Platea, *the first Establishment of the Greeks in Africa.*—Asbystæ, Auschisæ, *and* Cabales; *neighbours to the* Cyrenians.—Cyrenaica, *or* Lybia Pentapolis, *the great Colony of the Greeks.*—*Garden of the* Hesperides.—Nasamones, *the most powerful of the Nomadic Tribes—seize on the Lands of the* Psylli—*gather the Dates of* Augila.—*Accordance of modern with ancient Customs, a Proof of our Author's Veracity.*—Psylli, *Charmers of Serpents.*—Garamantes, *the People of* Fezzan, *or* Phasania—*hitherto misplaced by Geographers.*—*Splendour of their Capital, arising from the Profits of Merchandize.*—*Conquered by the Romans.*—*Its carrying Trade compared with that of* Palmyra.—Macæ, *or* Masæ.—*River Cinyps.*—Gindanes *recognised in the People of* Gadamis.—Lotophagi.—*Observations on different Species of* Lotus.—*Remarks on Herodotus's Line of Distance, through North Africa.*—*Other Tribes along the Coast;* Machlyes, Ausenses, Maxyes, Zaueces, Zygantes.—*Honey from the Palm Tree.*—*Island of* Cyranis—Carthaginian Empire, *unnoticed by Herodotus.*—Philenian Altars.—*The Conquests of Cambyses terminated at the Hesperides.*—*Hills of Salt along the North Coast of Africa.*

The knowledge of Herodotus, respecting the geography of the coast of Lybia, was extensive, but not critical. His description, found in Melpomene, and which occupies a large portion of that book, includes the whole coast between Egypt and the Lesser Syrtis; being more than half of the northern border of Africa. It appears

at first, as if he meant to give a regular chain of distance, marked at intervals of ten days each, by *hills of salt*, from Egypt to Mount Atlas; but on examination it proves defective, in more than one place. These intervals will be noticed in the course of this dissertation; but as nothing can be deduced from the *whole*, taken as a *series*, we shall not break the thread of our design, by examining it, in this place. However, as it will appear that the latter half of the series, or that between the Lesser Syrtis and Mount Atlas, agrees to the actual geography; it may be presumed that the other part was equally, or indeed, better known to Herodotus, though not described; as it seldom happens that the sphere of knowledge increases with the distance.

The people of this coast* he represents generally, as NOMADES, from Egypt, westward to the lake *Tritonis*, (by which he means the *Lesser* Syrtis, Melpom. 186:) and the country, says he, is low and sandy. The country farther to the west (*Africa proper*, *Numidia*, &c.) is mountainous and interspersed with wood; and infested by wild beasts, and *serpents* of an *enormous* size:† (191). Within this tract, however, the inhabitants are husbandmen, and live in houses: and these regions, notwithstanding the unfavourable circumstances related of them, are by much the finest parts of Northern Africa; being the ancient provinces of *Mauretania*, *Numidia*, and *Africa proper*, (or Carthage). Mount Atlas is marked by our Author, on the score of its form and elevation: "at every approach, appearing *round* and *steep*; and so lofty, that its summit can never be distinguished, by reason of the clouds that envelope it; whence (says he) it was called a *Pillar of Heaven*." Melp. 184. He remarks also, that the Greeks borrowed the ÆGIS, with which they decorated the shield, (or *shrine*) of Minerva, from the neighbourhood of the lake

* The reader is referred to the Map No. IX, at page 545, for the geography described in this Section.

† The *great serpent* of Regulus, was afterwards killed in this quarter. Dr. Shaw had heard of none that were more than three or four yards in length.

Tritonis: the name of which Ægis was derived from the fringed and dyed goat skins, employed on the occasion. Melp. 189.

In our arrangement of the Lybian provinces, we shall follow, as often as we are able, the order observed by our Author.

Beginning from Egypt, says he, Melp. 168, the Africans are to be enumerated in the following manner.* The first are the ADYRMACHIDÆ, whose manners are in every respect *Egyptian;* but their dress is *African:* they occupied the maritime tract between Egypt and the port of *Pleunos*, or *Plynos*. Plynos, in Scylax, p. 44,† is two days sail beyond *Apis;* but we suppose this to be a mistake, and that it lay near the *Catabathmus Magna*.‡ Scylax confines this tribe, whom he calls a Lybian nation, p. 44, between the points of Canopus and Apis: contrary to Herodotus, who appears to include the sea coast of *Marmarica* within their territory.

In Ptolemy, the Adyrmachidæ are placed in the *inland* tract, opposite to the same coast; and towards Ammon. Schlichthorst says, they were driven into the higher parts of Lybia, by the Greeks, in the age following Herodotus. If the former authorities are correct, the Adyrmachidæ must have increased their territories very considerably, between the times of Scylax and of Herodotus. §

* It has been remarked before, that he excludes Egypt from Africa, in his geographical arrangement. In Euterpe, 65, Egypt is said to be *near* Africa.

† See Hudson's *Geog. Min.* Vol. i.

‡ *Apis* was at the frontier of Egypt towards Lybia; situated 12 miles beyond Parætonium; and was named from a temple of Apis, there. The Apis spoken of in Euterpe, 18, should be a different place; and as it is connected with *Marea*, may have been adjacent to the lake Mareotis.

§ An obscene custom is imputed, by Herodotus, to the *Adyrmachidæ:* such as has also been imputed to the people of a *part* of *our island*, in barbarous times; we mean a certain privilege claimed by the superior lord, which all the rest of mankind are agreed in reserving for the bridegroom. It is singular, that a custom should have been introduced *here*, which was too barbarous to obtain amongst *more than one* of the African tribes: and that a privilege reserved for the king *alone, there*, should be extended to every superior lord, *here*, in the quarter where the custom prevailed. It is impossible to place the base servility of some of our ancestors, in a more striking point of view.

Next to the Adyrmachydæ, says our Author, Melp. 169, were the GILLIGAMMÆ, "who occupied the coast, as far as the island of *Aphrodisias*." Now, as this island was situated *beyond* the port of Cyrene, westward, there must needs be a mistake *here*, because a great part of the fertile and cultivated district of Cyrenaica, would otherwise be allotted to a *Nomadic* tribe. Therefore the facts are irreconcileable, and we must seek for some other explanation. Possibly the island of *Drepanum*, near Derna, might be meant.

The celebrated island of *Platea*, (now *Bomba*) where the Thereans first established themselves, and which continued to be possessed by the Cyrenians, was situated on the coast of the Gilligammæ: as were also the ports of *Menelaus* and *Azyris*. See Melpomene, 152, 166, 169.

The ASBYSTÆ were a small inland tribe, situated between the Gilligammæ on the east, and the Auschisæ on the west, Melp. 170, 171; and *above*, or *within*, Cyrenaica; having no communication with the coast, which was occupied by the Cyrenians. (This seems a proof that the Gilligammæ could not possess any part of the coast, to the west of Derna.) The Asbystæ were beyond all the Africans, remarkable for the use of chariots drawn by four horses: and in most respects they imitated the manners of the Cyrenians.* (170).

Pliny places the Asbystæ, as well as the Masæ or Macæ, to the west of the Nasamones; and of course, is at variance with our Author's description; but Strabo, with more probability, says, p. 838, "After the Nasamones, (who are situated at the Greater Syrtis, and beyond Cyrene) are the *Psylli*, *Getuli*, and *Garamantes*."

The AUSCHICÆ, who bordered on the west of the Asbystæ, extended from *above* Barca, to the neighbourhood of the *Hesperides*, on the sea coast:" Melp. 171.

The CABALES,† an inconsiderable tribe, occupied the sea coast,

* Herodotus says, that the Greeks themselves borrowed from Africa, the custom of harnessing four horses to a chariot. Melpom. 189.

† Query, if the *Kabyles* of Shaw?

opposite to the *centre* of the Auschicæ, and extended themselves to the coast, near *Tauchira*, a town belonging to *Barca*. (171.) They had the same customs with the people beyond Cyrene.

Thus we have filled up the space along the sea coast between Egypt and the Hesperides, situated at the commencement of the Greater Syrtis, and beyond Cyrenaica: concerning which province, we shall presently speak.

It is proper to remark that the distribution of this coast, is very different, in the Periplus of Scylax, and in Ptolemy, from what we have just given on the authority of Herodotus. Ptolemy lived nearly six centuries after our Author: so that great changes must naturally be expected: but Scylax doubtless lived within half a century of the time of Herodotus. As Scylax limits the Adyrmachidæ to *Apis*, on the west, so he extends the *Marmaridæ* from thence, all the way to the Hesperides; including within their territory, the space allotted by Herodotus, to the Gilligammæ, Asbystæ, Auschisæ, and Cabales; all of which names he entirely omits.* Beyond the Hesperides, the agreement between the two, is much closer.

No doubt, we may thus account for the descriptions in Scylax. He must be regarded as a *seaman*, or *pilot*, and the author of a kind of *coasting Directory*, who confines himself to the description of the coasts; giving *general* names to them, as our modern pilots do; as the coast of Barbary, of Guinea, of Malabar, &c. without regarding the lesser political divisions, or the changes that may take place in them: so that it might have happened, and does happen in the cases just mentioned, that many such names are unknown in the

* Strabo, p. 838, extends the *Marmaridæ* from Cyrenaica to Ammon; which agrees nearly to Ptolemy: whilst Pliny (lib. v. 5.) extends them between Parætonium and the Greater Syrtis.

Diodorus (lib. iii. 3.) divides the Lybians into four tribes, of which the *Marmaridæ* possessed the coast from Egypt to Cyrene: the *Nasamones* on the south, answering to the people of Augela: the *Auschisæ* on the west; and the *Macæ*, the most populous of all, *at* the Syrtis.

countries, to whose coasts they are applied by strangers. In effect, we must regard Scylax as a *pilot*; Herodotus as an *historian* and *geographer*.

The province of CYRENAICA (now Kairoan, or Kurin) was situated *within* the tract of the Nomades: it was the most elevated part of it, and wonderfully fertile. Melp. 199. It contained the first Grecian colony established in Africa: and how interesting it was to the Greeks, may be collected from the detailed history of the establishment, progress, and subjection of it, given to them by Herodotus, in Melpomene, 145, *et seq*.

This province is also named LYBIA PENTAPOLIS, from its having five cities or towns of note in it: that is, *Cyrene*, *Barce*, *Ptolemais*, *Berenice*, and *Tauchira*; all of which, not only exist at present under the form either of towns or villages, but it is remarkable that their names are scarcely changed from what we may suppose the pronunciation to have been amongst the Greeks.*

According to the description of its boundaries by Herodotus, Cyrenaica *proper*, could not have had a greater extent along the coast, than about 120 G. miles, from east to west. But it was subsequently extended, so as to include the country of the Nasamones, as appears by the famous boundary of the *Philenian* altars, between the states of Cyrene and Carthage.†

The gardens, or orchards, of the HESPERIDES, and the history belonging to them, are too well known to be repeated here. It is however satisfactory to know, that the ancients fixed on a spot that was appropriate; since there is at present a *wood* there, according to the testimony of Edrisi: and it being near the sea on the one hand, and on the edge of the *Desert* of Barca on the other, a wood could hardly have been expected, in that situation.

Strabo, 836, places the lake of *Tritonis*, which he says is the same with that of the *Hesperides*, and which receives the river *Ladon*;

* As *Kurin*, *Barca*, *Tollamata*, *Bernic*, and *Taukera*.

† Concerning these altars, more will be said in the sequel.

at *Berenice*. The lake contained an island, in which was a temple of Venus. Pliny also places the *groves* and *gardens* at Berenice, at the end of the *Syrtis*: lib. v. c. 5: and Solinus in like manner. Strabo is, however, wrong, in placing the lake Tritonis at the Greater Syrtis, which ought to be at the lesser one, as will be shewn in its place.

The Tritonian lake of Lucan, was also at the Hesperides, but it may be a doubt whether he did not confound it with the lake Tritonis at the Lesser Syrtis. He was a very bad geographer.

Bernic, is doubtless the same with the ancient *Berenice*. It appears from Edrisi, page 93, that there is at present a *wood* at 4 miles from the sea, in the plain of *Bernic*, at about 40 G. miles to the SW of Barca. From his mentioning the wood, a practice not common with him, one may conclude that it had something remarkable about it; or that trees were not common on that coast.

Scylax, p. 46, says that the gardens or orchards of the Hesperides, are situated at 620 stadia, say 50 G. miles from the port of *Barce*, which is itself 500 stadia, or about 40 G. miles from the *port* of Cyrene. This agrees precisely to *Bernic*. He allows no more than two stadia for the length and breadth of the garden, which formed a square.* He gives a catalogue of the trees in it, which stood so thick as to entwine with each other; and it is worthy of remark, that the *lotus* is amongst them.

The NASAMONES, according to Herodotus, were the most powerful of the Nomadic tribes on this coast.† They bordered on the

* The number is probably wrong.

† Melpomene, 172. In Euterpe, 32, he says, "that they inhabited the Syrtes, and a tract of land which extends from thence to the east." Strabo, 837, places the Nasamones at the Greater Syrtis, and beyond them the Psylli. Pliny (v. 5.) says that they were originally named Mesamones by the Greeks, as being situated between two quicksands; meaning perhaps the *two* Syrtes, but this does not apply.

Lucan (lib. ix.) reckons them a barbarous tribe, and says that they live by *wrecks*: the Syrtes supplying their wants, and making up for the barrenness of their soil. Curtius, iv. 7, also speaks of their making a prey of stranded ships. Our country-

Greater Syrtis, and on the district of Cyrene; and as they had seized on the lands of the Psylli, their territory must have embraced the whole of the south and east sides of the Syrtis. It appears that they also appropriated to themselves the dates produced in the plains of Augela; whence, the whole extent of their territory may have been about 400 G. miles from east to west, at that time: so that they may well have been denominated the most powerful of the Nomades. But when, in later times, the boundaries of Carthage and Cyrene met at the Philenian altars, situated at the innermost recesses of the Syrtis, it is evident that the Nasamones must have been dispossessed in their turn. And accordingly, in Ptolemy, we find them removed to the inland tract of Augela itself: in which Diodorus agrees. Lib. iii. c. 3.

Concerning the geographical position of Augela, both absolutely and relatively, we have already spoken. Its historical importance too, is considerable, as it relates to our Author's history; and it is one of those few places whose name has not undergone a tittle of change since Herodotus wrote.* Pliny also speaks of it, lib. v. 4 and 8, and brands the inhabitants with the character of worshipping evil spirits. We have seen that it is also spoken of by the Arabian geographers, and by modern travellers. Abulfeda calls it an *Island* in the Desert, abounding with water and palm trees: and we shall find in the reports of modern travellers, a pleasing confirmation of those of our Historian, as they serve to give a confidence in him, when he relates things of greater importance. "The Nasamones (says he) during the summer season, leave their cattle on the coast, and go up into the country, to a place called Augela, to gather dates; on which spot, the palms are equally numerous, large and fruitful." Melp. 172. Modern travellers inform us, that the dates in the plain of Gegabib, five journies to the eastward of that of Augela,

man, Mr. Bruce, was shipwrecked there, and found them much the same sort of people. See his Introduction; and also p. 100 of this work.

* Much the same, has just been said concerning the towns in Cyrenaica.

are gathered by the people on the coast of *Derna*: so that one may conceive, that the same practice prevails throughout the whole region. See Proceed. Afr. Assoc. 1790, ch. x.

The territory of the PSYLLI is to be regarded as a province of the Nasamonians. Herodotus says that the latter took possession of the lands of the former, in consequence of their being depopulated by an accident. Melp. 173. Pliny, with more appearance of probability, says that the Psylli were destroyed, generally, by the Nasamones, lib. vii. 2; and that the small remains of them, fled.

The reputation which the *Psylli* bore for charming of serpents, and for the cure of their stings, is mentioned by many ancient authors. Cato is said, by Plutarch, to have carried some of the Psylli with him, in his memorable march round the Greater Syrtis; when he, of course, passed through the former country of the Psylli, which had the reputation of being dreadfully infested with serpents; and whence, we may suppose, arose the necessity of their learning how to avoid, or to subdue them.* From this popular idea, we may suppose that certain *jugglers* professed themselves *Psylli*, as we learn from Pliny, lib. vii. 2. They are very often mentioned by this author; as in lib. xxv. 10; and xxviii. 3.†

It is certain that in India, a country also abounding with serpents, there are people who so completely subdue serpents of the most venomous kinds, as to have them entirely at command. They are said to seize on them, with their naked hands, without apprehension of mischief: and this, not only on those they have already been accustomed to, but on such as they never saw before. They teach them to *dance* to a wind instrument, generally three at a time; and this the Author has often seen; as well as the replacing them in their baskets, which the juggler does, with the same indifference as

* ——Well in the land of serpents were they plac'd:
Truce with the dreadful tyrant, Death, they have,
And border safely on his realm, the grave.
Rowe's Lucan, lib. ix.

† See also Savary, Vol. i. ch. iv.

if they were eels. But in what state their powers of stinging, *then* were, the Author knows not.

The Psylli were placed between the Nasamones, Macæ, and Garamantes; (Melp. 173, 174, 175); that is, at the middle part of the Greater Syrtis; now the Desert of Sort.

Scylax omits the Psylli, altogether.

Beyond these, southward, that is, towards the inland country of Africa, were the GARAMANTES, said by Herodotus to be "a numerous nation, situated at 10 journies from Augela," (*i. e. westward*, of course), and "between the Nasamones and the Macæ." (See Melpom. 174, 175, and 183.) The present towns of Mesurata and Lebida, are situated within the territory of the ancient *Macæ*, or *Masæ*.

The Garamantes will be clearly made out to be the people of FEZZAN, a considerable tract of inland country, situated midway between Tunis and Egypt; and which, notwithstanding its great extent, falls under the description of one of the Oases, or fertile tracts, found in the middle of the desert; being completely insulated by sandy or rocky deserts, and separated to a considerable distance from any other habitable tract. It may indeed, be reckoned the largest Oasis, known.*

Herodotus supposes that the eastern limit of the Garamantes, approached within 10 journies† of the Augelæ; but this can only be true of the *approximating parts* of the two provinces; between which, lies a frightful and widely extended desert; part of which is sandy, partly *naked* rocks.‡ The extent of the country of *Garama*, is also omitted by Herodotus; but this does not invalidate the remaining facts; and in our idea, few geographical positions can with more certainty be reconciled to ancient history: for it will appear

* Strabo places the Psylli between the Nasamones and the Garamantes; which latter agrees to Fezzan.

† Pliny, lib. v. 4, says 12 journies.

‡ See African Assoc. 1790, ch. x. Pliny speaks of burning rocks, &c.

that Strabo places the Garamantes in the quarter of Fezzan, by *positive data*, and Pliny, by the strongest implication possible; that is, by assigning to the Garamantes, certain cities whose remains are amongst the Fezzaners.

It is true that both Ptolemy and M. D'Anville place the Garamantes nearly in the *centre* of Africa;* and that Pliny supposed, when he spoke of the people of *Phazania*, and of the *Garamantes*, and *Gamphasantes*, that he was describing different nations; but the contrary, is however, true. See lib. v. c. 4, 5, and 8. Mela also calls them Gamphasantes, lib. viii. Pliny describes the conquest of Phazania, and other tracts in Africa, by Balbus, lib. v. c. 5, and says, that it had a *fine* capital city named *Garama;* as also another city named *Cillaba*: (c. 4.) Garama was no doubt the *Germa*, or *Jerma*, a ruined city well known to the present people of Fezzan; and Cillaba, may be taken for *Zuela*, or *Zawila* (also in ruins)† which afterwards became the capital, and existed as such in the time of Abulfeda. Tab. III. Africa.

It can hardly be doubted but that Germa, or Garama, the *capital*, gave name to the *country* itself, amongst the Greeks and Romans. Abulfeda calls it Karran or Garran; as well as Fazzan; and Edrisi, p. 39 and 40, Pharan, and Faran. But all kind of doubt is removed concerning the place meant: for Abulfeda describes it to be on the

* M. D'Anville places *Germa* so far inland as 24° 15′, although it be really in 27° 48′; since it is no more than 17½ caravan journies from Mesurata. See above, p. 566. Moreover he extends the Garamantes within the limits of Begarmee, which, it is possible, he might mean for Garamanta.

Some of the ancients seem to have been much puzzled about the situation of the Garamantes: and as Ptolemy places them towards the centre of Africa, so Lucan places them on the sea coast.

Dr. Shaw observes, p. 136, that "the Garamantes may be presumed to have been placed either in the districts of Gadamis, Fezzan, or some of the other more distant cities and villages of the kingdom of Tripoly;" which proves that the Doctor had considered the subject well, although he does not come directly to the point.

† African Association, 1790, ch. iv.

east of *Gadzamis*, (*Gadamis*, the *Cydamus* of Pliny,) and of *Wadan*; and to be an island, or Oasis, in the great Desert of Sahara, well watered, and fruitful in palms; and having cities and other edifices. Moreover, he places its *then* capital, *Zawila*,* on the *south* of *Sort*; whose position has already been assigned, at one of the recesses of the Greater Syrtis. See page 567.†

According to the information collected by the African Association, Germa is situated at four journies to the ESE of Mourzouk, and is also 25, of Edrisi's scale, from Agadez: (pages 39 and 40,) so that there is little doubt of its being the Garama of Pliny.

We shall add to these authorities some ideas of Strabo and Pliny; and although neither of them appear to be well informed on the subject, yet their ideas coincide, as far as they respectively go.

Strabo says, p. 835, that "above the Getulians is the region of *Garamanta*, 9 or 10 journies distant from the sea coast (perhaps the capital may be the *point* reckoned to), and the same distance from the Ethiopians: and also 15 from the Ammonians." And, 838, "after the Nasamones (who are by the Syrtis and Cyrenaica) are the Psylli; a part of the Getulæ, and the Garamantes," &c. This proves clearly, that Fezzan is intended by the region of Garamanta, by its distance from the sea, and from the Ethiopians. Augela was unknown to Strabo; and we may suppose that he included the space occupied by the Augelæ, in the region of the Ammonians: in which case, the 15 days will not be much out. And with respect to its distance from the sea coast, the report is just.

Pliny, lib. v. c. 8, says, there is nothing but a *desert* between the people bordering on the ocean, and the Garamantes, Augelæ, &c.; meaning the Sahara, which fills the vast space between the Atlantic, and Fezzan. Had Garama been where Ptolemy and M. D'Anville place it, there would have been the countries of Tombuctoo, Agadez, and Kasseena, (or Kashnah) between it and the ocean.

In effect, it seems impossible to mistake it; for Fezzan is the only

* *Mourzouk* is the present capital.

† See also Abulfeda, Tab. III. Africa.

large tract of fertile land, that contains a number of cities and towns, in this quarter of Africa: and Garama was deemed of importance enough by the Romans, to induce them to send an army under *Balbus** to reduce it. Pliny gives a long list of provinces and towns conquered by this general, the names and representations of which, he carried in his triumph, on that occasion. But besides Fezzan, and its *principal* cities, we can only recognise *Cydamus (Gadamis)*, on the NW; and *Tabidium (Taboo)*, on the SW of Fezzan. It is probable that most of the other towns, were situated within the Oases or territories of Fezzan and Gadamis: the remainder in the line towards Agadez and Kasseena: for Pliny also says, that "the Romans possessed the country, even to the river Niger, which separates Africa from Ethiopia."† Garama, or Fezzan, appears to have been regarded as of the first importance, amongst the conquests of Balbus.

Herodotus was informed that the Garamantes avoided all communication with mankind, and were ignorant of the use of military weapons, but this is doubtless a mistake; although Pliny says the same of the *Gamphasantes*, not recognising them in the people of *Phazania*, whom he had before described.

This character of the ancient people of Fezzan, implying a total seclusion from the rest of mankind, and which, their situation in a great island of the Desert, might seem calculated to produce; yet differs so widely from the present character of the Fezzaners, that we cannot admit the truth of it. For their present character, which is that of the most enterprizing merchants of Africa, appears to grow out of the physical situation of their country: it being, perhaps, the most advantageously placed of any inland country in Africa, for the purposes of commerce; being not only situated on the line of the *shortest* and most *convenient*, and therefore *principal*

* BALBUS was a Spaniard, and a citizen of *Cadiz*; and is said by Pliny to have been the first foreigner who had the privilege of a triumphal chariot. Pliny, v. 5.

† Lib. v. 4.

communication between the Mediterranean sea, and the centre of Africa, but also in the line between Western Africa, Egypt, and Arabia. It may be compared to the ancient state of Palmyra, placed in the midst of deserts, and forming a *link* of connection between other states; and growing rich by a *carrying trade* across the Deserts. It is probable, therefore, that they have, in all ages, availed themselves of these advantages, and have not, at least, been *lower* in estimation, than their neighbours. Besides, to what must they have been indebted for their *fine capital*, mentioned by Pliny, but to superior riches? Are ornamented cities found amongst such a people as Herodotus describes? It is true that the establishment of a *new* superstition at Mecca, in latter times, may have *added* to the riches of Fezzan; since it is become the rendezvous of the Mahomedan pilgrims, from the west and south of Africa:* but this circumstance has probably made only a part of the difference that is observable, between the state of prosperity existing in Fezzan, and that of their neighbours.

This state of things may be collected from the late Mr. Beaufoy's publication, entitled, "Proceedings of the African Association," 1790, chap. iv. Fezzan is there described to be a circular domain, apparently 14 to 15 journies in diameter, and surrounded on all sides by hilly deserts, except on the western border, on which the flat sandy desert, or Sahara, terminates. To these barriers, more than to military strength, it is, no doubt, indebted for its security: but it possesses military strength likewise, as appears by the expedition against the *Tibesti* mountaineers, described in the same book.†

No rain falls in Fezzan: but notwithstanding, water is found

* See Proceedings of the African Association, 1790, chapters iv. and x.

† Pliny says, lib. v. 5, that the Romans found a road over the mountains, into *Garama*, nearer by four journies, than the one they had formerly used. This short way was probably by Sockna. (See the Map at p. 545.)

every where, in wells of 8 or 10 feet deep.* Herodotus appears to be accurate, when he says that in this region (of which Fezzan formed a part) it never rains: he adds, that the houses, some of which are built of indurated salt, are as durable as those of the ordinary materials, elsewhere. Melp. 185. Mr. Beaufoy says that the country "produces a sufficiency of salt for the consumption of its own inhabitants;" with a variety of useful animals; a rich vegetation, and great plenty (with some variety also) of grains.†

The capital, Mourzouk, oftentimes called Fezzan, is situated nearly in the centre of the country, and at about 262 miles southward from Mesurata, as has already been shewn in page 566; Wadan, a smaller Oasis, lying nearly midway between them.

The city of Zawila,‡ and that of Germa,§ are situated to the eastward, and ESE, of Mourzouk. Each of them contains the ruins of edifices, of which "there are no existing patterns in use," at this time; (Germa, in particular): and which can only be referred to the period of the Roman dominion, there.‖

* Mr. Beaufoy accounts satisfactorily for this, from its being surrounded by higher lands. Pliny says, lib. v. 5, of the *Hammamentes*, (who are the *Amantes* of *Solinus*, and whom we take for the people of *Gadamis*, or *Cydamus*), that they get water at the depth of a *cubit and half*. It may be from a like cause; being an Oasis like Fezzan.

† There is a river of some bulk, in Fezzan, which takes its course by Zuela, &c. Edrisi, p. 40; but it appears to be afterwards lost in the sands, and does not reach the sea. Ptolemy continues this river to the sea coast, making it the head of the *Cinyps*, whose course is very confined indeed.

The Tabuda, or Taboo River, is in like manner represented by Ptolemy as the upper part of the *Bagrada*, or river of Carthage: an error of still greater magnitude.

‡ Called also Zuela. It must not be mistaken for *Zala*; which is 10 days to the eastward of it. Ed. p. 40.

§ It is *Jerma* in Beaufoy (p. 130,) and *P. Lucas*: but *Germa* in Edrisi, p. 39.

‖ Abulfeda is silent concerning any ruins at *Zawila* and *Germa*; although he speaks

It may be conceived that the Nasamonian explorers beforementioned, (see page 431) would naturally take their route through the country of Fezzan, to the Niger. For "they first proceeded through the inhabited region; then came to that, which was infested by wild beasts; which, also leaving, they directed their course westward, through the Desert," &c. Euterpe, 32. Fezzan would, of course, be *that* inhabited country; and westward of it lies the great sandy Desert, beyond which was the Niger, (or *Nile* of the *Negroes*) a part of whose course, appears to approach within little more than 35 caravan journies of the borders of Fezzan.

Returning to the coast—we find the MACÆ (of Herodotus, Melp. 175,) in possession of it, to the westward of the Nasamones; or rather of the *Psylli*, whose districts became a part of the other, and was the part which bordered on the Macæ.

Pliny confirms this situation, generally, by placing the *Masæ* (as he writes the name*) on the west of the Nasamones. Scylax says, p. 47, that the Macæ wintered, adjacent to the coast of the Syrtis, (and beyond the Nasamones,† who inhabited the innermost part of

of some very celebrated remains of *Roman* buildings at *Gadamis*, Tab. III. Africa. The report of the ruins at Germa, &c. is from European travellers.

Mr. Beaufoy says, (Afr. Assoc. 1790, ch. iv.) "Zûeela,—in which the remnants of ancient buildings, the number and size of the cisterns,‡ and the construction of the vaulted caves, intended perhaps as repositories for corn, exhibit such vestiges of ancient splendour, as will probably attract, and may highly reward, the attention of the future traveller."

Again, of *Germah*, or *Jermah*—"distinguished by numerous and majestic ruins, that exhibit to the ignorant inhabitants of its clay-built cottages, *inscriptions*, of which they know not the meaning, and vestiges of greatness to which they are perfectly indifferent."

* It might be supposed from Pliny's writing the name *Masæ*, that the *c* was to be sounded *soft*. *Mesurata*, which is situated within this tract, may have been formed from *Masa*.

† In this place, the lands of the Psylli are included with the other.

‡ We may ask, why *cisterns*, in a country where water is to be had at 8 or 10 feet depth?

it); but in summer, on the deficiency of water, retired into the higher parts of the country. (Ptolemy places the *Macæ Syrtitæ* much in this position.)

According to the ideas of Herodotus, the Macæ, ought to extend westward to the neighbourhood of the present Tripoly. For he says, that their territory included the course of the river *Cinyps*, which flowed from a *woody hill* named from the *Graces*, at 200 stadia inland from the coast. Melp. 175. Pliny, lib. v. 4, mentions a *district* of the name of Cinyps. Ptolemy, who certainly is oftener right in what relates to the *detail* of *this* coast of Africa, than any other person, places the mouth of the Cinyps at no great distance to the eastward of *Leptis Magna*; now Lebida. He says, that this city is also called *Neapolis*; in which Strabo agrees; p. 835. And as Scylax, p. 47, places the same river near Neapolis, we must suppose that the Cinyps gained the sea near Lebida, although we do not find any modern notices concerning it. Mr. Lucas,* for instance, does not mention either the *river* or the *hill*, in his account of his journey: and a *fine river*, and a *woody hill*, are objects too remarkable in this quarter of Africa, to be passed over unnoticed, where the rest of the country is naked, and barren.

Herodotus again mentions the Cinyps, on occasion of the settlement of Dorieus (brother of the immortal LEONIDAS, king of Sparta,) in its vicinity. He styles it "one of the most delightful situations in that part of the world." Terp. 42. Dorieus was afterwards expelled, by the joint efforts of three tribes, amongst whom was the *Maci*; doubtless intended for the *Macæ*, through whose territory the Cinyps ran.†

The GINDANES, LOTOPHAGI, and MACHLYES, in the order here mentioned, are said to occupy the remainder of the space between

* African Association, 1790, ch. iii.

† Two remarkable customs are attributed to the *Macæ*, (Melp. 175): the one is, "their leaving a tuft of hair in the centre of the head; carefully shaving all the rest;" the other, that in war they shield themselves with the *skins* of *ostriches*.

the Macæ, and the lake Tritonis; by which latter, Herodotus intended either the *Lesser* Syrtis, or the Syrtis and lake *collectively*. Of this more in the sequel.

It is not perfectly clear what nation or people, Herodotus intended by the Gindanes, but from very strong circumstances, we conceive those of Gadamis to be meant.* In the first place, no other author that we know of, speaks at all of such a people as the Gindanes: and moreover, Scylax, in his Periplus, joins the Lotophagi to the Macæ near the city of Neapolis,† which necessarily excludes the Gindanes from the sea coast. Nor does it at all appear that Herodotus meant to place them on the sea coast: for he by no means keeps to it, in his description, but occasionally diverges inland; as for instance, from the Psylli, on the coast, to the Garamantes, inland; and from these again, to the Macæ, on the coast.

In the next place, Herodotus says, Melp. 177, that the *Peninsula*, or *Promontory* which advances *from the country of the Gindanes to the sea*, is possessed by the LOTOPHAGI: and these, are exactly the relative circumstances of the two countries of Gadamis, and of the Lotophagi: or in other words, that projection of the coast, between Tripoly and the gulf of Kabes, or Gabbs.

Gadamis, (the *Gadzames* of Reiske), is a well known city and territory, situated in the road from Tunis to Agadez and Kasseena. Abulfeda calls the city an illustrious one, and says, that it contains the ruins of some admirable *Roman* structures: that its territory is fertile, and watered by running streams; and that it is celebrated for preparing of *skins*.‡

* Herodotus attributes a very singular custom to the women of this district; which was, to shew by tokens in their dress, the number of their lovers.

† From the description of Scylax, one might suppose *Neapolis* to have stood nearer to the Great Syrtis, than *Leptis* is.

‡ The skins prepared at Gadamis, are doubtless either those of goats, or sheep, stained with different colours, as in some other parts of Africa: a manufacture which is executed with great skill. Dr. Shaw says, p. 241, that there is a particular species of *sheep* at Gadamis, which are nearly as tall as fallow deer, and with fleeces as

The city of Gadamis, according to Mr. Magra, lies 23 to 24 journies of the caravan, in the direction of S 4° E from Tunis: (Proc. Afr. Association): and Abulfeda (Tab. Africa), places it at 14 *miles*, (he means journies) directly south from Kabes; which agrees pretty well. We have allowed 15 miles per day, or 360 from Tunis.

The ruins mentioned by Abulfeda, are accounted for, from its having been a Roman establishment, and one of the principal conquests of Balbus: *(Cydamus*, or *Kydamus.)* Pliny, v. 5.

Abulfeda moreover says, that the running waters in this province are distributed in *certain proportions* to the cultivator of the soil: we may suppose, from the necessity of husbanding them out, and not suffering them to run to waste.*

To return to the coast—it will appear from what has been said above, that the sea coast between the two Syrtes was divided between the *Macæ* and the *Lotophagi*, the latter of whom also possessed the island of *Menix* (or *Meninx)*, now *Jerba*:† and the coast beyond it, as far as the lake and river of Tritonis, to the Machlyes, who touched on the inner part of the Lesser Syrtis. This tribe also, is said to have fed on the fruit of the *lotus*; but not so entirely as their neighbours, who were denominated from the use of it. Melpom. 177, 178.‡

coarse and hairy as those of goats (which are also shorn in some parts of Africa). These may, possibly, supply the skins. We shall speak more of this subject under the heads ÆGIS and TRITONIS.

* The same is said concerning the river of Kabes.

† See Dr. Shaw, page 197.

‡ We collect from Strabo, p. 835, that the people at the *Lesser* Syrtis, caught a great deal of fish; for he describes them as being very ingenious and industrious, in fixing their fishing apparatus; the rise and fall of the tide, in that particular part, being peculiarly favourable to it, as we learn from Dr. Shaw, who visited the spot, and observed the same mode of fishing at present. Hence we have an opportunity of finding how accurate Herodotus was, in this quarter: for this is precisely the station of the Machlye tribe, which he describes to inhabit the coasts of the Syrtes, and to

Scylax, as we have seen, extends the name of Lotophagi to the tribes generally, between the two Syrtes, p. 47, 48; leaving to the Macæ nothing more than the western shore of the *greater* of these gulfs. Ptolemy limits them to the neighbourhood of the river Cinyps alone, whilst Herodotus appears to confine them to the west of that river; or perhaps of the district which is denominated from it. Again, Strabo, p. 834, places them in the island of Meninx, *alone;* although he calls the adjoining Syrtis, that of the Lotophagi, implying that they possessed at least a part of its shores; as was really the case: and Pliny, lib. vi. 7, assigns them, in addition to the island, the *environs* of the Syrtis, also. In effect then, it appears, that although the Lotophagi of the Greeks, extended generally along the coast between the two Syrtes, yet that the different tribes of them might use it, only in different degrees; and it is certain that Herodotus confines the proper Lotophagi to the promontory or projection of the coast, opposite to the Gindanes, (the supposed people of Gadamis); in which may be included the aforesaid island of Meninx, or Jerba, which is separated from the coast, by a narrow and shallow channel; and may possibly, have been regarded by Herodotus as a continuation of the main land. If we take the whole extent of the tract thus assigned to the Lotophagi and Machlyes, it may comprehend 200 miles of coast.

But the allotment of this confined space, alone, to the eaters of lotus, was owing to the want of a more extended knowledge of the countries that bordered on the Desert: for it will be found, that the tribes who inhabit them, and whose habits are in any degree known to us, eat universally of this fruit, in a greater or less degree, according to circumstances: and most of them, apparently, as much as they can obtain of it. The tree or shrub that bears the lotus fruit, is disseminated over the edge of the great Desert, from the coast of

use a *less quantity* of the *lotus* than their neighbours, the *proper* Lotophagi, although *he* gives no reason for it; but which may possibly be found, in their obtaining supplies of fish with greater facility than their neighbours, who border on the open sea

Cyrene, round by Tripoly and Africa *proper*, to the borders of the Atlantic, the Senegal, and the Niger.*

It is well known, that a great difference of opinion has prevailed amongst the moderns, concerning what the ancients intended by the LOTOS: for the history of it, as it has come down to us, is evidently mixed with *fable*, from having previously passed through the hands of the poets; Homer being the first who mentions it (in the Odyssey, lib. ix. 94.); but he no more expected us to believe that the lotus possessed the quality of inducing *forgetfulness*, than that a race of Cyclops existed, or that men could be transformed into swine.† But of the *existence* of a fruit, which, although growing spontaneously, furnished the popular food of tribes or nations, there is no kind of doubt; as it is mentioned by various authors of credit; and amongst the rest by Polybius, who appears to have seen it, in the proper country of the *Lotophagi*.

There appear, however, to have been two distinct species of lotus designed by the term; because Herodotus and Pliny, in particular, describe a marked difference between them: the one being an aquatic plant, whose root and seeds were eaten, in Egypt; the other, the fruit of a shrub or small tree, on the sandy coast of Lybia. The Egyptians, it seems, did not obtain a nickname from the Greeks, for eating *their* lotus, as certain people of Lybia did; the reason of which seems clearly to be, that it constituted a *part* only of the food of the one, but the entire food of the other. And here it may be remarked, by the bye, that the Greeks appear to have applied the name LOTUS to such vegetable productions as either grew spontaneously, or were raised with very little art or labour; and which

* This appears, as well from ancient as modern authorities.

† The poetical allusions to the oblivious effect of the lotus, are almost endless. Xenophon also mentions it, in one of his harangues to the Ten Thousand (Anab. lib. iii.) Those who eat of the fruit of the lotus, we are told, forgot their *native country*: this may be a poetical allusion to the ease, and (supposed) comfort and happiness of a people, whose country produced food for them, without the labour of raising it.

constituted the food of men. We shall first speak of the lotus of Lybia: the one generally intended by the ancients.

Herodotus certainly had *not* seen it. In Melpom. 177, he calls it "the *fruit* of the lotus, which is of the size of the mastick, and sweet like the date; and of which a kind of *wine* is made." This circumstance of the wine is mentioned by *all* those who have spoken of the lotus of Lybia, and marks the distinction between that and the aquatic lotus. Herodotus, moreover, speaks of "a species of *thorn*, which resembles the lotus of Cyrene; and which distils a gum." Euterpe, 96. This, therefore, should be the *Rhamnus lotus*.

Pliny, lib. xiii. c. 17, describes two different kinds of lotus; the one found at the Syrtis, and amongst the Nasamones, &c.; the other in Egypt. The former he describes from Cornelius Nepos, to be the fruit of a tree: in size ordinarily as big as a bean, and of a yellow colour; sweet and pleasant to the taste. The fruit was bruised, and made into a kind of paste or dough, and then stored up for food. Moreover, a kind of wine was made from it, resembling mead; but which would not keep many days. Pliny adds, that "armies in marching through that part of Africa, have subsisted on the lotus." Perhaps this may refer to the army of Balbus, which, Pliny informs us, lib. v. c. 5, had penetrated to Gadamis and Fezzan.

Polybius, who had himself seen the lotus on the coast of Lybia,* says that it is the fruit of a shrub, which is rough and armed with prickles, and in foliage resembles the *rhamnus*. That when ripe it is of the size of a round olive; has a purple tinge, and contains a hard stone: that it is bruised or pounded, and laid by for use; and that its flavour approaches to that of *figs or dates*. And finally, that a kind of wine is made from it, by expression, and diluted with

* Polybius was employed by Scipio Africanus the younger, in exploring the coasts of Africa.

water; that it affords a good beverage, but will not keep more than 10 days. (Polyb. apud Athenæum, lib. xiv. c. 12.)

The lotus has been described by two modern travellers, Dr. Shaw, and M. Desfountaines, on the side of the Mediterranean; and by a third, Mr. Park, towards the Niger and Senegal rivers. Dr. Shaw, it is well known, visited the country about the Lesser Syrtis, on the borders of the proper country of the Lotophagi; and M. Desfountaines, who resided in the same neighbourhood, did the same, at a much later period. The descriptions given by these gentlemen, agree perfectly amongst themselves, and also with those of the ancients; as may be seen in Dr. Shaw, p. 226; in the *Mem. Acad. Royale*, 1788, page 443, *et seq.*; and in Mr. Park's highly interesting Book of Travels, p. 99, 100. It seems to be agreed, that it is the fruit of the *rhamnus lotus* of Linnæus.*

* We here extract Mr. Park's description, as being the most perfect of all.

"They are small farinaceous berries, of a yellow colour and delicious taste. The natives convert them into a sort of bread, by exposing them some days to the sun, and afterwards pounding them gently in a wooden mortar, until the farinaceous part of the berry is separated from the stone. This meal is then mixed with a little water, and formed into cakes; which, when dried in the sun, resemble in colour and flavour the sweetest gingerbread. The stones are afterwards put into a vessel of water, and shaken about, so as to separate the meal which may still adhere to them: this communicates a sweet and agreeable taste to the water, and with the addition of a little pounded millet, forms a pleasant gruel called *fondi*, which is the common breakfast in many parts of Ludamar, during the months of February and March.† The fruit is collected by spreading a cloth upon the ground, and beating the branches with a stick." P. 99.

Mr. Park adds, p. 100, "An army may very well have been fed with the bread I have tasted, made of the meal of the fruit, as is said by Pliny to have been done in Lybia: and as the taste of the bread is sweet and agreeable, it is not likely that the soldiers would complain of it."

† Pliny speaks of their mixing some preparation of the farina of grain, with the *lotus*. Possibly this may refer to the *wine*, according to the practice just mentioned by Mr. Park.

Dr. Shaw says, that " the fruit is common in these Deserts, and other parts of Barbary—is still in great repute, and sold in all the markets all over the southern districts of these kingdoms :" and M. Desfountaines that " it is spread over the southern parts of the kingdom of Tunis, on the borders of the Desert, and about the environs of the Lesser Syrtis: that the fruit is sold in the markets, their cattle fed with it, and a *liquor* drawn from it, as heretofore :" agreeing pointedly with the description given by Polybius. And finally, Mr. Park says, " the lotus is very common in all the kingdoms which I visited; but is found in the greatest plenty on the sandy soil of *Kaarta*, *Ludamar*, and the northern parts of *Bambarra*, where it is one of the most common shrubs of the country. I had observed the same species at *Gambia*, and had an opportunity to make a drawing of a branch in flower. The leaves of the Desert shrub are, however, much smaller, and more resembling, in that particular, those represented in the engraving given by M. Desfontaines."

To these accounts may be added, that of M. Saugnier, who was shipwrecked on the coast of Africa in 1784, and was carried, in a state of captivity, along the western border of the *Sahara*, to Morocco. In the part between the Capes Bojador and Nun, he says, the people with him, " eat of nothing during the daytime (that is, on the way) but a small wild fruit, resembling the *jujube*; which is to be found every where." This was about the middle or latter end of March: but Brisson, who was in like manner carried across the Desert, during the latter part of the summer and autumn, only remarks abundance of prickly shrubs; probably the same shrub, after the season of fruit. Mr. Park mentions February and March as the season, on the *south* of the Desert; M. Desfontaine, says August and September, to the north of the Desert.*

* It is highly probable that the fruit gathered by the Nasamonian explorers of the interior of Africa, mentioned by Herodotus, in Euterpe, 32, was the lotus. " After a journey of many days, over a barren and sandy soil, they at length discerned some trees growing in a plain; these they approached, and seeing fruit upon them, they

We conceive that the nature of the lotus, from whence the ancients denominated the Lotophagi, will appear in future perfectly free from ambiguity, from the clear statement and description given by Mr. Park, compared with those of the ancients.*

We come next in order to the *aquatic* lotus.

Herodotus describes two kinds of *lotus*, or *water-lily*, in Egypt, although it will appear, almost to a certainty, that his memory failed him; and that he refers *one* of the kinds, which he had seen elsewhere, to Egypt.

"The water-lily (says he) grows in the inundated lands of Egypt: the seed of the flower, which resembles that of the poppy, they bake, and make into a kind of bread; they also eat the root of this plant, which is round, of an agreeable flavour, and about the size of an apple. *This* the Egyptians call the *lotus*.—There is a second species which grows in the Nile, and which is not unlike a *rose*. The fruit, which grows *from* the *bottom* of the *root*, resembles a wasp's nest: it is found to contain a number of kernels of the size of an olive stone, which are very grateful, either fresh, or dried." Euterpe, 92.

†It may be remarked, that the more carefully we examine the descriptions of those objects of natural history, which the ancients had occasion to mention; and which, in order to aid their descrip-

gathered it." They had passed the Desert from the side of Fezzan, and were arrived at its southern *border*, and in the land of the lotus: and were immediately after taken prisoners, and carried to the side of the Niger. It would seem that these men were not accustomed to the lotus in their own country; living, probably, too far to the east.

* It is worthy of remark, that the same kind of shrub and fruit, or what is exceedingly like it, grows spontaneously in sandy places, in Bengal; where it is called *Byre*. The Author has seen them even on the very bank of the Ganges, in dry situations. The people eat them as we may sloes, or wild berries.

† For the following observations on the aquatic lotus, as well as for some remarks on the subject of the lotus, at large, the Author is indebted to a highly distinguished friend; whose name and character have been already commemorated in this Work.

tions, they were obliged to compare with other things, to which they had a general resemblance; the more we shall be sensible that they were in the habit of marking the particulars in which they differed. Thus, for instance, Herodotus says, that the second kind of water-lily is like a rose: *but*, says he, *the fruit grows from the bottom of the root.* It is unquestionable, that, in this respect, the *nymphæa nelumbo* differs from the *rose:* for the fruit of that plant grows upon a separate stalk, without having either leaves, or branches, and *rises immediately from the root;* but the fruit of the rose is placed amongst its leaves, at the termination of its branches. From the slight manner in which he mentions this second kind of lily; and his omitting all mention of its being in use as a kind of *food*, although eaten as a *luxury*, it seems probable that he had met with the plant in some other country, but was mistaken in the fact of its being a native of Egypt. It is also to be remarked, that he does not assert that (like the first kind) it was named *lotus* by the Egyptians.

It has indeed been supposed that the Egyptian lotus, of the ancients, is the *nenuphar*, or *nymphæa nelumbo* of Linnæus. This error seems to have originated with Dioscorides; for in describing *Kyamos Aigyptios* (lib. ii. c. 128.) he plainly refers to Theophrastus's chapter on Kyamos (lib. iv. c. 10), in which, nymphæa nelumbo is described with a degree of botanical sagacity, worthy the most enlightened age, under the name of *O Kyamos.*

Theophrastus says, that his *Kyamos* is found in Syria, in Cilicia, and at Torana in Colchis; but he makes no mention of its being known in Egypt.* Dioscorides says, that his Kyamos Aigyptios is found in Syria and Cilicia; and adds, that it abounds in Egypt: but no botanical traveller since his time, has met with nymphæa nelumbo in that country. Had it been abundant there, as Dioscorides asserts, Alpinus, who writes very fully on the plants of Egypt, would not have omitted it: nor would Forskäl, the botanist, who

* Herodotus had visited *Syria*, and *Colchis;* and possibly, *Cilicia* also.

accompanied Niebuhr, have failed to insert so curious a plant in the catalogue of Egyptian plants, published in his book.

The Bengalese have the nymphæa nelumbo in their lakes and inundations; and its fruit certainly resembles at all points that of the second species of water-lily, described by Herodotus: that is, it has the form of the orbicular wasp's nest; and contains kernels of the size and shape of a small bean. Amongst the Bramins, this plant is held *sacred;* but the kernels, which are of a better flavour than almonds, are almost universally eaten, by the Hindoos.

It may however be a question, whether this has always been the case; and whether, in the lapse of time that has taken place, since the days of Pythagoras (who is supposed to have visited India, as well as Chaldea, Persia, and Egypt), a relaxation in discipline may not have occasioned the law to be dispensed with: instances enough of a like kind, being to be met with, elsewhere. *Kyamos,* in the Greek language, appears to signify, not only a *bean,* but also the fruit or bean of the *nymphæa nelumbo.* Is it not probable, then, that the mystery of the famous inhibition of Pythagoras; an enigma, of which neither the ancients or the moderns have hitherto been able to give a rational solution, may be discovered in those curious records of Sanscrit erudition, which the meritorious labours of some of our countrymen in India, are gradually bringing to light?

In China, where the nymphæa nelumbo grows wild, and is also cultivated in great abundance, the nuts, as well as the roots, are eaten as *a luxury;* but they do not supply any food to the poorer classes.*

The *nymphæa lotus* of Linnæus certainly grew in Egypt, in abundance; and both the roots and the seeds have been, and probably are still, eaten, by the inhabitants. Linnæus, who has given the

* "The roots are sliced, and in the summer served with ice. They are also laid up in salt and vinegar for the winter."—"The seeds are of a taste more delicate than almonds."—"The Chinese regard the plant as sacred."—(Sir George Staunton's Voyage to China, Vol. ii. p. 391, quarto Edition.)

name of *lotus* to this plant, and to the *rhamnus*, which really produces the lotus of *Lybia*, may generally be relied on for his acuteness: and he certainly thinks the nymphæa lotus was the lotus of the Nile. This plant is described at large in Alpinus's *Dissertatio de Laserpitis et de Loto:* and a full account is given in that work, of the manner in which it is used as food.

Theophrastus also describes this plant under the name of lotus (lib. iv. c. 10, immediately after the Kyamos), and describes the manner in which both the seeds and the roots are eaten by the Egyptians. But two circumstances, of no small moment in the present question, are observable in this description: he says that it grew in places where the lands were inundated; and he describes the *root* under a different name from the *plant*.

The inundated places near the Nile, produce at present, abundance of the *eddow*, or *colocassia*. The root of this plant is the food of a vast number of persons in the West Indies, and part of the East Indies; and in the South Sea Islands: it requires very little labour on the part of the cultivator, and is therefore exactly the kind of plant mentioned by the Greeks, when they speak of lotus, as a food produced with little or no labour, on the part of the eaters of it.

The colocassia, at all times of the year, abounds with broad green leaves, not wholly different from those of the nymphæa lotus; yet its flowers are very seldom seen; the roots are eaten, as the heads of our cabbages are, before the period of the plant's flowering; and as the colocassia is never propagated by seeds, no one has an interest in making himself acquainted with the flower of the plant, or indeed, to suffer it to grow till it bears one.

May we not suppose, then, that Theophrastus has confounded the *root* of the colocassia, with the *flower* of the nymphæa lotus, and made of them *one* plant; for the root, which he calls *corsium*, is, by the description, larger than the root of the nymphæa, but

very conformable to that of the colocassia, which Alpinus calls *culcas?* If this is admitted, the mystery of the lotus of Egypt vanishes; and we have the Egyptians of the days of Herodotus supplied, as the people of Otaheite, are now, with an abundant food, provided for them, by nature, with little or no labour.

Several botanical writers have suspected that the colocassia was in reality, the *faba Egyptia;* but no one has solved the difficulty in this way: it is remarkable, however, that in the beautiful edition of Matthioli's Commentaries on Dioscorides (the most magnificent botanical work that appeared in the 16th century), a figure is given of the *faba Egyptia*, evidently compiled from description, and not drawn from nature. In this, the leaves and root clearly belong to the colocassia; the flower resembles the nymphæa nelumbo, more than any other; but the seed is entirely the produce of the draughtsman's invention; as it does not seem to have any prototype in nature. Had the compiler of this figure been acquainted with the orbicular wasps' nests of the hot climates, to which Theophrastus compares the fruit of his Kyamos, I have no doubt that he would have adopted it; and the figure would then have been tolerably conformable to Theophrastus's description.

After this long dissertation, we return to the subject of the geography of Lybia.

Throughout the whole extent, from Egypt to the Lesser Syrtis, no idea of distance is given by Herodotus;* but as he appears to know, most perfectly, the arrangement and relative positions of all the different tribes, it may reasonably be concluded that he had some idea of the quantity of space also. But to place this matter in the clearest light to the reader, we shall pursue our Author's account of the distance westward, from the Lotophagi (at the Lesser Syrtis) to Mount Atlas, before we conclude our remarks on the remaining part of his geography of the coast of Africa.

* Save those broken lines between the *Ammonians* and the border of *Fezzan*.

He says, Melp. 183, that from the Lotophagi it is a journey of 30 days to a nation (whom he does not name*) amongst whom there is a species of oxen with a singular kind of horns. Immediately afterwards, the *same* people are called *Garamantes* (183, 184), and are placed at 10 days short of the *Atlantes* (or *Atrantes*†); beyond which, at the distance of 10 other journies, still going westward, is Mount Atlas; making an aggregate of 50 journies. Now as the distance is really *about*, though somewhat more than, 50 journies from the Lotophagi (at the Syrtis, which is the point meant by Herodotus) to Mount Atlas, we may fairly conclude that the name *Garamantes* has been interpolated in this place; and that some other name was originally inserted.

What also seems to prove that the Atlantes (or Atrantes) at 10 journies from the Garamantes, are misplaced, is, that Herodotus says, Melp. 185, "I am able to name all the nations, as *far* as the Atlantes; but *beyond* these, I have no knowledge." Now, admitting the Atlantes to have occupied a position at 10 journies only, beyond the Garamantes, it is evident that he has actually named several nations that ought to have lain beyond them; as the Lotophagi, the Machlyes, and others; besides which, the Atlantes are placed so far to the west, as to be at 10 journies only, short of Mount Atlas.

We regard the fact of the 50 journies, between the Lotophagi and Mount Atlas, as a strong circumstance; as it serves to shew that the length of the Mediterranean sea, was generally known to Herodotus, and the Greeks, at that time: for if the *remote* part was known, it may be at least expected that the *nearer* part was; though not expressed. Indeed it can scarce be doubted that the Phœnicians, Carthaginians, and Greeks, who were in the constant habit of traversing the Mediterranean, long before the time of Herodotus, were

* The 30 journies fall nearly about *Cartenna*, now *Tennis*, in the western part of *Numidia*.

† It seems there is a doubt concerning the true reading of this word. Can it be the same with the *Hamamentes* and *Amantes* of Pliny and Solinus?

well acquainted with the length of that sea. For the distances given by Eratosthenes, along the Mediterranean, at little more than a century after Herodotus, were most probably according to a system established long before: since Herodotus himself calls it "the sea frequented by the Greeks."* Again, Scylax, who certainly appears to have written before the time of our Author, sets forth the number of days' sail, from *Canopus* to the *Columns of Hercules*; and which, at the rate of sailing in those days, agrees very well with the known length of the Mediterranean.

Moreover, our Author's description of the provinces between Egypt and Cyrenaica, seems equally in proof that he had a knowledge of those parts also: and he could not but know, from the frequency of the communication between Greece and Cyrene, that those countries lay *directly opposite* to each other; which circumstance ought to have pointed out the extent of space between Egypt and Cyrene, as well as between Greece and Egypt.

Proceeding with the history of the tribes, along the coast of the Mediterranean sea, Herodotus further says, (178 and 180) that the *Auses*, or *Ausenses*, border on the *west* of the lake and river of *Tritonis*, being separated *by them*, from the *Machlyes*, who border on the opposite side; and amongst whom, according to *Scylax*, we should look for the temple of *Minerva Tritonia*.†

Here it is proper to be observed, that Herodotus differs from his own account, in another place, in his report concerning the occupation of the Ausenses; for in 191, he makes them the *last* of the Nomadic tribes, in going westward; the nation beyond them (that is, the Maxyes) being the *first* of the husbandmen, in the same order of situation. But in 186 and 187, he says, that from Egypt *to* the lake *Tritonis*, the *Africans* lead a pastoral life, but beyond (that is, to the *west*) of the same lake, they are *not shepherds*, and are dis-

* See the dissertation on the ancient itinerary stade, page 13 of this work.

† More will be said on this subject, as well as concerning the lake and river of *Tritonis*, in the succeeding Section.

tinguished by different manners: that is, as he explains himself in 191, they "cultivate the earth, and live in houses." Now, as the Ausenses are pointedly placed on the west of the lake, there is of course a contradiction. It is possible that he might mean to speak *generally* in one place, and *particularly*, in the other; and, in consequence, that the lake was entirely *surrounded* by *Nomadic* tribes. Scylax tells us (49) that the lake *Tritonis* is surrounded by *Lybian* nations, but that there are cities on the western side, (and it is implied, *there alone*): and that, in the same situation, the country is fertile and plentiful. Dr. Shaw seems to describe much the same state of things.

Of the name *Ausenses*, we find no traces in modern geography. Of the *Machlyes* and *Maxyes*, we meet with several names that have some similarity. The *Machryes* of Ptolemy occupy the space between *Gephes* (perhaps the *Gaffsa* of Shaw)* and *Jovis Mons*: *i. e.* a mountain to the NNE of the lake *Tritonis*. His *Machyni* are placed towards the gulf of *Adrumentum*. These may possibly be meant for the *Machlyes* and *Maxyes* of Herodotus: and considering the long interval of time between him and Ptolemy (600 years) the tribes may have altered their position. The *Machres* of Leo, and *Makaress* of Dr. Shaw, (196) at the northern part of the Lesser Syrtis, certainly agree to the supposed position of a part of the *Maxyes*.†

Next to the *Maxyes* were the *Zaueces*, or *Zaveces*, who are marked by the very peculiar custom of having their chariots of war, guided by their women. Melp. 193. There are no traces of this name in modern geography, as far as we can learn. We must suppose them

* Dr. Shaw does not appear to have been always fortunate in referring the ancient names and positions, to the modern ones. For instance, *Gaffsa* is more like the *Gephes* of Ptolemy, in name and situation, than *Capsa*; *Kisser* to *Gisira*, than to *Assurus*; *Hyra* to *Audira*, than *Thunudronum*. In *Zeleefa*, we have too, the *Zalapa* of Ptolemy; probably.

† Pliny only says of the Machlyes, that they lie beyond the Nasamones: lib. vii. 2.

to have occupied the space between the Lesser Syrtis and the Gulf of *Adrumentum*, since the *Zygantes*, or Zugantes, were the next beyond them, Melp. 194: and these are clearly the *Zeugitanians* of Pliny, being the inhabitants of the province which contained the city of Carthage; and whose boundary began on the west, at the river *Tusca*, where *Numidia* ended.* How far this province extended, southward, we know not: and of course we must remain in ignorance concerning the position of the *Zaueces*.

Of the *Zygantes*, our Author says, "that a great deal of honey is found amongst them, the *produce of their bees*; but of this, they say, a great deal more is *made* by the natives. They all stain their bodies with vermilion, and feed upon monkies, with which animal, their mountains abound." Melp. 194.

The circumstance of the honey, is well explained by Dr. Shaw, in his account of the countries of Algiers and Tunis, as it is there made occasionally from the palm tree.†

Here the description of the maritime provinces of Africa, in Herodotus, ends.

The island of *Cyranis*, lay in the neighbourhood of the *Zygantes*, (Melp. 195.) and is said to be 200 stadia in length; of trifling breadth, and of easy communication with the continent. We can only suppose the islands of *Querkyness*, or *Kerkiness*, the *Cercina* and *Circinitis* of the ancient geographers to be meant. Dr. Shaw (p. 193) calls them "two flat and *contiguous* islands" at five leagues or less, from the continent, near the northern extremity of the Lesser Syrtis. He gives them, in his map, an extent (collectively) of about 80 stadia, but gives no description in his book. It appears that Diodorus

* Dr. Shaw, with much plausibility, supposes that the name Zygantes, or Zugantes, may have been derived from that of the town and mountain of *Zow-aan*, or *Zagwan*; situated about 40 G. miles to the SW of Carthage. See p. 184, 185; and his Map at p. 139.

Pliny has the *Lybyphœnices* beyond Zeugitania: lib. v. c. 4: Ptolemy at the river *Bagrada*.

† Page 225.

mistook *Cyranis* for *Cernè*, (the modern island of *Arguin)*; in ancient times a *Carthaginian*, in modern times, a *Portuguese*, settlement, on the western coast of Africa, near Cape Blanco. But Herodotus unquestionably intended an island in the Mediterranean, and that near Carthage.*

At *Cyranis*, gold sand was drawn up from the bottom of a lake, by means of a bunch of feathers, besmeared with pitch. (Melp. 195.)

From the variety of the matter relating to the Syrtes, we have purposely omitted to speak of them, here, that we might not interrupt the course of the geographical detail: it will therefore be given separately.

It appears a remarkable circumstance that Herodotus should be utterly silent respecting the boundaries of the Carthaginian empire, although he was not only describing the continent which generally contained it, but also some of its provinces. It is true, that the history of their state, formed no part of his plan; nor was he writing a system of geography; but one is surprized to find that as he mentions certain transactions of these people,† he should have omitted to describe the position and extent of their empire. Perhaps there was a design in it. Nothing that was *Carthaginian* could sound pleasant in the ears of the Greeks, as the Carthaginians had leagued themselves with the Persian, the implacable enemy of the Greeks. For Xerxes, to facilitate his views on Greece, had encouraged the Carthaginians to traverse the plans of the Greeks, in Sicily. But

* The difference of the two islands in point of size, is not great, *Cyranus* being about six or seven miles long, *Cerne*, five. *Cyranis* must not be confounded with *Cyrnus*, or Corsica, to which the *Phocæans* retired after the Persian invasion of *Iönia*.

† That is, their commerce; and their contests with the *Phocæans*, in *Cyrnus;* and with the *Sicilians*. Also the meditated attack on them by Cambyses, which they escaped through the manly conduct of their ancient brethren the Phœnicians. Thalia, 19.

he is silent respecting this circumstance also, although he speaks of the defeat of the Carthaginian army, sent to Sicily, on the above occasion. Polym. 166. It is from Diodorus that we learn the important fact of the treaty.

It does not appear that in the time of Herodotus, the Carthaginians had extended their territory so far to the east, as to occasion disputes with the Cyrenians: for unquestionably, the incident of the *Philæni*, at the *Greater* Syrtis, was posterior to the age of Herodotus, when the *Auschisæ* and *Nasamones* possessed the coast beyond the *Hesperides*, and round the greater part of the Syrtis. And we must conclude that matters were in much the same state when Scylax wrote his *Periplus;* for at that time the Carthaginian boundary extended from the Greater Syrtis, to the Columns of Hercules, (p. 52.): and it also appears, (p. 47.) that the first place within their territory, going westward, was Neapolis, near the western point of the Syrtis.*

We have inserted in the Map, the names and positions of the several nations, between Egypt and Carthage, from the descriptions of our Author; and as many of these are corroborated by *Scylax*, and other authors, it appears that Herodotus knew, in effect, all the

* At the date of Hannibal's expedition to Italy (B. C. 217.) the Carthaginian empire extended eastward to the Philænian altars, which stood at the SE extremity of the Greater Syrtis. The story of the Philæni, as it is told, is in some points very improbable. It is said that the parties set out from their respective capitals, Carthage and Cyrene, and met at the place where the altars afterwards stood. Now, the altars were situated at about $\frac{7}{9}$ of the way from Carthage towards Cyrene; and the deception would have been too gross, had it been pretended that the Carthaginian party had travelled 7 parts in 9, whilst the Cyrenians had travelled no more than *two* such parts, of the way. Would either party have trusted the other, with the adjustment of the time of setting out? Perhaps, they mutually set out at the *opposite extremes* of the territory in dispute, and not from their respective capitals!

Pliny says (lib. v. 4.) that the Philænian altars were of sand or earth: that is, no doubt, they were *Tumuli*.

Strabo (p. 836) names the *Euphrata* tower, as the common boundary of Carthage and Egypt, under the Ptolemies. This stood far to the west of the altars.

different divisions of territory, although he has not left us sufficient notices to arrange them geographically, without the aid of others.

The conquests of Cambyses extended no farther westward, than to Cyrene and the Hesperides. Melp. 204. Herodotus says, Melp. 168, " the nations of AFRICA are many and various: few of them had ever submitted to Darius (Hystaspes) and most of them held him in contempt:" which disposition towards the Persians, continued also to the time of our Author. (See 197.)

Herodotus seems to have been fully apprized of the *saline* quality of the soil of Africa, in the quarter bordering on the Mediterranean; although he expresses some very odd ideas respecting the subject. For he describes a regular succession of vast *pillars* or *mountains* of *salt*, situated at 10 journies distant from each other; from the territories of the Ammonians to the neighbourhood of the Atlantes; Melp. 181, *et seq.*: and from thence, westward, *beds* of *salt*, at the same regular intervals, to the columns of Hercules. (Ib. 185.)

Now, although it is very improbable that either mountains, or beds of salt should be placed in the abovementioned regular order, yet we learn from Dr. Shaw, that both HILLS and BEDS or lakes of salt, do exist, in the country between Tripoly and Mauretania: also, that the soil is generally impregnated with it; and that it sends forth a great number of copious salt springs. Shaw, p. 228, *et seq.* We learn too from other authorities, that there are vast lakes of salt in other parts of the country; and it would appear, that scarcely any country whatsoever, contains so much salt, on its surface, as that region of Africa, which borders on the Mediterranean.*

Dr. Shaw enumerates three mountains of salt, only; but Herodotus five. The Doctor went no farther eastward than the Lesser Syrtis; otherwise it is possible that he might have told us of more.

* Pliny and Strabo also, were both aware of the saline quality of the soil of this part of Africa.

The Doctor's three, are: 1. *Miniss*, on the sea coast, near *Tennis*, (*Cartenna*); 2. *Lwotaiah*, situated inland at about 160 G. miles to the SSW of Algiers; and 3. *Had-deffa*, between the lake *Triton* and the Lesser *Syrtis*. The five of Herodotus, are as follow: the first, amongst the *Ammonians*; a second at *Augela*, and others, amongst the *Garamantes*, and *Atlantes*, and at *Mount Atlas*. As the intervals of distance given, are quite wrong, we shall say nothing concerning that particular; otherwise, than that one cannot from those notices, refer either of the mountains in the one series, to any particular one, in the other. Herodotus, however, speaks of salt of a *purple colour*, Melp. 185, and of a degree of hardness fit for building of houses; and as Dr. Shaw gives a like description of the salt of the mountain *Had-deffa*, one might suppose this to be the purple mountain intended by Herodotus.

Dr. Shaw says (p. 229), "The salt of the mountain Had-deffa is as hard and solid as stone, and of a *reddish* or *purple* colour. Yet what is washed down from these precipices by the *dews*, attaineth another colour, becoming as white as snow, and losing that share of bitterness, which is in the *parent-rock-salt*.* The salt of the mountains near Lwotaiah and Jebbel Miniss, is of a grey, or blueish colour."—See a farther account of the salt mountains and *salines*, in pages 35, 116, and 230. He speaks of no other purple salt, whatsoever, but says, (230) that he had seen some large pieces of *sal gem* brought from the country of the *Beni Mezzab* (that is, on the border of the *Sahara*, to the south of Algiers), but he is silent with respect to the colour.

In effect, Herodotus has spoken truly with respect to the *houses* of *salt*. He also fixes the scene, in a tract where, says he, "it never rains; for if it did, these structures of salt could not be durable." (185.) This remark is true of the country, generally, along the Mediterranean, between Africa *proper*, (which ends at

* Strabo says much the same of the Spanish rock salt, page 155.

the Lesser Syrtis) and the Red Sea; and more particularly in the *Jereed*, which is the tract bordering on the Syrtes, where the purple mountain stands.

Dr. Shaw says, page 219, "In most parts of the *Sahara*, particularly in the *Jereed*, (or dry country; p. 210,) they have rarely any rain at all. When I was at *Tozer*, at the lake Lowdeiah, or *Tritonis*, A. D. 1727, we had a small drizzling shower, that continued for the space of two hours; and so little provision was made against accidents of this kind, that several of the houses (built only with palm branches, and tiles baked in the sun) fell down, by imbibing the moisture. Nay, provided the drops had been either larger or the shower of longer continuance, the whole city would have undoubtedly dissolved and dropt to pieces."*

In the order in which Herodotus enumerates the hills of salt, this is the *fourth*, or that situated amongst the *Atlantes*, 10 journies beyond (*i. e.* west of) the Garamantes, or people of Fezzan.† Whether the term Atlantes be falsely written, we know not; but it appears to be the same with the *Hammanians* or Hammanientes of Pliny‡ (lib. v. 5.) situated at 11 journies to the west of the *Greater* Syrtis, and who had houses built of rock salt. It is certain that both accounts agree, in respect of position, to the province or Oasis, of Gadamis: but we are ignorant of the fact of there being rock salt there.

Pliny indeed marks the country of the *Hammanientes* by a very

* But rain falls in the western provinces along the coast of the Mediterranean, *during winter*, but not in summer. The Doctor's journal, at page 219, notes no rain but between 7th October and 2d May in 1732-3: and between September and May in 1730-1. The quantity was 44,3 inches in the first; 30,7, in the last.

Mr. Beaufoy makes no mention of rain, in *Fezzan;* but in *Bornou*, within the *Tropic*, there is a regular rainy season; as there is also, apparently, through Africa in general, within a great part of the torrid zone.

† The people of Fezzan have salt enough, it is said, "for their own consumption:" Afr. Assoc. 1790, ch. iv.

‡ These are the *Ammantes* of Solinus.

striking particular, if true; that they find water after digging to the depth of a cubit.*

One is surprized to find Herodotus believe that "streams of water, equally cool and *sweet*," flowed from the summits of some or all of the hills of *salt*. (Melp. 181.) That water runs down from Had-deffa (from *dews* not rain), we are told by Dr. Shaw; but he tells us also, that it left, on evaporation, a beautiful white salt on the plain. (Page 229.)

The salt *plains* or *vallies* of *Arzew* and the *Shott* (Shaw, 114, 229,) may be supposed to be two of those meant by Herodotus; and which in their nature, may be compared to the salt plain near *Aleppo*; that is, the water, which at certain seasons flows into and covers them, is so deeply impregnated with salt, as to leave a thick crust over them, when evaporated. The Shott is described to be 50 miles in length, in the map: the valley of Arzew is only six miles in compass. Part of the lake Lowdeah (Tritonis) is also a *saline*. (P. 230.)

But it would appear, that the region which contains so great a portion of salt, is confined to the *northward* of the Tropic; since salt is universally carried from that region, to the *central* and *southern* states. The kingdom of Kasseena, and the countries bordering on it to the south, are supplied from the salt lake of *Domboo*, a district of the kingdom of Bornou, situated within the vast desert of Bilmah, at 45 journies from Agadez, the ancient capital of Kasseena, and nearly under the Tropic. The people of Agadez possess this *carrying trade*, and employ 1000 camels, which form an annual caravan.†

* In the *Oases*, generally, the water lies very near the surface.

† See Proceedings of the Afr. Assoc. for 1790; chap. vii.

The salt lake of Domboo agrees generally to the position of the *Chelonides Palus* of Ptolemy, in respect of Cyrene. Pliny mentions a lake within the country formerly belonging to the *Psylli*, which was surrounded by deserts. Its name was *Lycomedis*. Pliny, lib. v. c. 4.

The salt consumed in the inland part of Western Africa, is brought from mines situated on the southern edge of the *Sahara*. The reader will find many particulars relating to this subject, in the Travels of Mr. Park; and particularly in the Appendix to that work.

This inquiry, on the whole, gives a degree of credit to the assertions of Herodotus; since some of his *mountains* and *beds* of salt, are found really to exist; and it is satisfactory to find such coincidences between him and modern authors.

SECTION XXIII.

CONCERNING THE TWO GULFS, ANCIENTLY DENOMINATED THE SYRTES: AS ALSO CONCERNING THE LAKE AND RIVER TRITONIS; THE TEMPLE AND ÆGIS OF MINERVA; AND THE ANTIQUITY OF THE MANUFACTURE OF DYED SKINS, IN AFRICA.

The SYRTES, *the Terror of ancient Mariners—irregular Tides and Quicksands, the Causes of the Danger.—Position and Extent of the Syrtes.—Lake* Serbonis, *a kind of Syrtis.—General Ideas of the Ancients respecting them.—Imperfect State of the ancient Navigation, an additional Cause of Danger.—*GREATER SYRTIS, *or Gulf of* Sidra.—*Poetical Description of it, by* Lucan.—Goodwin Sand, *compared to the Quicksands of the* Greater *Syrtis.—*LESSER SYRTIS, *or Gulf of* Kabes.—*Its Description by the Ancients, agrees pointedly to that by the Moderns.—Its* Tides.—*Lake of* Tritonis, *or* Lowdeah, *anciently communicated with the* Syrtis.—*Herodotus included both under the Name of* Tritonis.—Jason *driven amongst its Shallows.—Difficulties respecting the* river Tritonis, *attempted to be solved.—*Ægis *and* Temple *of* Minerva, *at the Lake* Tritonis.—*Greeks borrow the* Ægis *from Africa.—Antiquity of the Manufacture of* dyed Skins, *in Africa.—Used in the* Tabernacle *in the* Wilderness.—*That and the* Ægis *covered with the same kind of Skins.*

THE SYRTES, which were the terror of ancient mariners, are two *wide, shallow* gulfs, which penetrate very far within the northern coast of Africa, between Carthage and Cyrene; in a part where it already retires very far back, to form the middle bason, or widest part of the Mediterranean sea. The north and east winds, of course, exert their full force on these shores, which are entirely exposed to them: at the same time that not only certain parts of those shores

are formed of moveable sand, but the gulfs themselves are also thickly sown with shallows of the same kind, which yielding to the force of the waves, are subject to variation in their forms and positions. To this must be added the operation of the winds, in checking or accelerating the motions of the tides; which are therefore reducible to no rules. And from these causes, combined, the depths are so uncertain, that experience, it would appear, proved of no avail to mariners.*

The two Syrtes are more than 200 G. miles asunder, and were distinguished by the terms GREATER, and LESSER; of which it would appear, Herodotus knew only the *former* by the name of *Syrtis*, the latter by that of the *Lake Tritonis*.† Not but that both were known, and had obtained the above distinctive names, in the time of Scylax;‡ whom we may conceive to have written before the time of Herodotus. § But, it is remarkable that our author is entirely silent concerning the properties of the Syrtis which he thus mentions by name, whilst he speaks of the dangers of the other in a pointed manner. We are not, however, from this silence, to infer that he was ignorant of the dangers of the Greater Syrtis. ||

* It is a common idea, that there are *no tides* in the Mediterranean. Nor do they indeed rise in any part of that sea, in a degree sufficient either to effect the usual purposes of laying ships on shore to *careen;* or even in many places so as to affect the senses of those who are accustomed to view the ordinary rise and fall of tides on the coasts of the ocean. But that *a tide* does exist, is certain; and that it rises five and six feet in particular places. Herodotus speaks of the ebbing and flowing of the tide in the gulf of *Melis;* which, he says, "may be seen every day." Polym. 198. This is the small gulf on which *Thermopylæ* stands.

† Scylax (page 48) also names it *Sinus Tritonicus;* and *Syrtis parva:* and Strabo, p. 834, the gulf of the *Lotophagi*.

‡ Pages 48, 49.

§ Scylax appears to have lived in the time of Darius Hystaspes.

‖ The *Serbonitic* lake, near Mount Casius, situated between Palestine and Egypt, appears to have been a kind of *inland Syrtis*. Diodorus describes its borders as being formed of a very dangerous kind of quicksand: (lib. 1, 3) and says (lib. xvi, 9) that *Artaxerxes Mnemon* lost part of his army there, in his march into Egypt; about 350 B.C.

M. Maillet, p. 103, supposes it to be quite filled up.

The greater Syrtis bordered on the *west* of the province of *Cyrenaica*, and penetrated to the depth of about 100 miles within the two capes, that formed its mouth, or opening; which were, that of *Boreum* on the *east*, *Cephalus*, or *Trieorium* on the *west*.* In front, it was opposed to the opening of the *Adriatic* sea: and the Mediterranean in this part expanding to the breadth of near 10 degrees, (which is its greatest breadth) exposed this gulf to the violence of the northerly winds.

Scylax reckons it a passage of three days and nights across its mouth, which, however, measures no more than 180 G. miles, on the best modern maps.† It is not, however, pretended, either that the whole extent of this space was *equally* dangerous, or that there were dangers in every part: on the contrary, there is every reason to suppose that the dangers were confined to particular parts of it.

The *lesser* Syrtis lay opposite to the islands of Sicily and Malta. It appears to be no more than 40 to 50 G. miles in breadth, but penetrates about 75 within the continent; and we have Scylax's word, that it was the most dangerous of the two.‡ The islands *Cercina* and *Cercinnitis* (*Cyranis* of Herodotus), § bounded its entrance to the *north*; *Meninx*, or that of the *Lotophagi*, on the south. It was here, that Jason is said (by Herodotus) to have been in

* The boundaries of the greater Syrtis cannot well be misunderstood, as the capes which confine it, are so marked and prominent. See Strabo, p. 836. Ptolemy, Africa, Tab. II.

† This allows about 60 for each day and night, collectively. Pliny, from Polybius, says, lib. v. c. 4. that it is 313 MP. (rather 213) across. The numbers in Strabo, expressive of the dimensions of both Syrtes, are corrupted, p. 834 et seq.

‡ Page 48. § Melp. 195. The boundaries of the lesser Syrtis, are not so marked as those of the greater. Strabo (123 and 834), fixes on the islands of *Cercinna* and *Meninx* (*Kerkines* and *Jerba*). He allows it a breadth of 600 stadia, or 51 G. miles only. Shaw has 76: D'Anville, 42: a mean would come near to Strabo.

Pliny, from Polybius, allows 100 MP. say 80 G. miles. The whole extent of *both* Syrtes, together with the intermediate space of 250 MP., is collectively, according to Pliny (lib. v. c. 4.) 667 MP.: and the distance is not much short of it.

imminent danger of shipwreck, previous to his setting out on the Argonautic expedition. Melpom. 179.

There are several short descriptions of the Syrtes, on record, but that of Lucan is the most pointed; and, making allowances for the colouring given by a poet, not very different from that given by Edrisi in latter times, or indeed what may be collected from Strabo.

Pliny informs us that Polybius had written a description of them; which perhaps, from the acuteness and accuracy of that author, might have been a better one, than any that has come down to us. It may be supposed to have been a part of the information collected by him, whilst employed in exploring the coasts of Africa, by Scipio, lib. v. c. 1. Pliny has quoted from this description, little more than the bare dimensions of the Syrtes, which we have already given. It appears that Pliny, in some degree, confounds the *two* Syrtes together, lib. v, 4; but it is clear that the nature of the dangers which they present, were essentially different; those of the Greater Syrtis being produced by the quicksands, both on the shore and in the offing; and which were rendered more formidable by their great extent: but the dangers of the Lesser Syrtis arose more particularly from the variations and uncertainty of the tides, on a flat, shelvy, coast.

In effect, Pliny supplies no description at all of the Syrtes; he just says, that they are horribly dangerous (lib. v, 4). Neither does Solinus: but both of them seem to consider the irregularity of the tides, as the sole, or chief cause of the dangers.

Strabo (836) imputes them not only to the tides, but to the flatness and ooziness of the bottom: and he observes that ships, whilst navigating this part, kept as wide as possible of the indraught of the gulfs. He seems to consider the two Syrtes as nearly on a par, in respect of the dangers which they presented.

It appears that the improved state of navigation, amongst the

moderns, has stripped the Syrtes of the greatest part of their terrors; since most of the dangers must probably have arisen from the difficulty of working off a *lee shore*; for which purpose the ancient ships were very ill calculated, in comparison with modern ones. The slow progress of those ships, which kept them so long in the neighbourhood of dangers of every kind, would add to that risk; and these deficiencies combined, must very often have proved fatal, in stormy weather; although a modern ship, well fitted, would, under similar circumstances of situation, have been unconscious of any danger.* It is also to be considered *here*, that the coast being in many parts bordered by quicksands, their accustomed refuge of drawing up their ships on the beach, could not be resorted to. Thus, modern improvements, may be said to have removed *that*, which was the greatest terror of ancient navigations, when a lee shore happened to be inaccessible.

Of the GREATER SYRTIS *in particular.*

Marmol says that the natives still call this gulf *Syrte al Kibbeer*, which has precisely the same meaning with the ancient name: and it certainly continues to be known to mariners by the name of *Sidra*, or *Seedra*.† The oriental geographers report, that the remains of the city of *Sort* or *Serte*, are found at the inner part of the gulf; and the position answers to that of the *Macomades Syrtis* of the Antonine Itinerary, (p. 63); that is, at 232 MP. from *Leptis Magna*, or Lebida; 208 from *Tiniodori*, or Tineh.‡

* This equally applies to other dangers; as those of *Scylla* and *Charybdis*, &c.

† Rowe says, *Soloco*. There is a place of this name, in Edrisi, said to be situated on the east side of the Syrtis.

‡ Edrisi, p. 88, 92, 93, has a route along the coast from Tripoly to *Sort*, or *Serte*; between which places, the distance given, is 230 A. miles, or 246 geographic, in

How dangerous soever certain parts of this gulf were, yet it appears from Strabo amongst the ancients, and P. Lucas amongst the moderns, that more than one port, within it, was frequented by trading ships: so that notwithstanding the mouth of it was thickly sown with shallows, yet bold and enterprizing navigators made their way through them. And it may be pretty clearly collected, that the part so much dreaded, and avoided, was at the SE of this Syrtis, where the *Philænian* altars were situated: and where the sea enters deepest into the land.

Edrisi informs us, p. 93, that about 70 G. miles of the road leading along the gulf, is through land which is, in a manner, in a state of *solution*; occasioned either by the *sea water*, or by the natural moisture of the soil. Now, as the part in question borders on an extensive desert of sand (that of the Psylli and Nasamones) the moisture can only arise from the sea water. The site of this tract, is precisely at the place where the deepest part of the gulf, strikes to the SE; and where the Philænian altars are placed by Ptolemy; around which the road makes a wide detour between Tripoly and Cyrene. How much more than 70 miles, this kind of ground may

the gross; but the detail allows no more than 210 A. miles, or 222 geographic. He says also that it is travelled in 11 days, which would give about 200 such miles, only. Probably, we ought to adopt the 222, and then the interval between Sort and Wadan, which Edrisi fixes at five journies, or 95 G. miles, will agree; Wadan being situated directly south from Mesurata, according to Mr. Beaufoy's MSS.

Abulfeda mentions the *remains* of the city of *Sort*, in his Africa, Tab. III. at the end; and also says, that on the *west* of this city is a gulf of the sea, named *Rodaik*, or *Rodakiah*, apparently the same with the *Zadic Sinus* of Edrisi, p. 92, near to which stands the town of *Asna*, 102 A. miles, or 108 G. miles, to the SE of the promontory of *Kanam*, taken for the *west* point of the Greater Syrtis; near Mesurata. It must here be noted that Edrisi allows 46 A. miles between *Asna* and *Sort*; (p. 88) but we suspect that it should be 26 only, and that the excess of 20 miles in the aggregate, over the detail, arises in this place. There is no line of distance, to be depended on, between *Sort* and the head of the *Syrtis*; but from thence to Barca, the distance, 153 A. miles, (p. 92,) agrees.

extend, to the westward, we know not; for the road for many journies thence, strikes inland.*

A second gulf, bordered by shores of the same nature, but of much less extent, penetrates the country at *Asnah* in the SW part of the Syrtis.† This is the *Sinus Zadic* of Edrisi; *Rodaik* of Abulfeda. Sort is situated between these two quicksand gulfs.

Strabo states, page 836, that *Aspis* was the best port in all the Syrtis. This place is found in Ptolemy, on the west side, at about 60 miles within the promontory of *Triæorium* (near Mesurata.) Strabo next places the Carthaginian *emporium* of *Charax*, doubtless the *Pharaxa* of Ptolemy, and perhaps the *Asnah* of Edrisi; though the nature of the gulf of Zadic, seems unfavourable to the establishment of an emporium. The *Isporis* of Ptolemy answers to the site of Sort, although in this latter, we should look for the emporium of Strabo; as he mentions no place between it and the Philænian altars. However, the nature of the information is such, that no position can be critically placed, from it. But, at all events, Strabo's words imply, that there are no ports in the SE part of the Syrtis: which is perfectly consonant to the descriptions of the coast, ancient, as well as modern; and hence we may justly conclude that this was the part avoided by mariners.

* Edrisi, p. 92, also mentions five *towers* in different positions in the desert tract, west of the *quicksand*. One of these, *(Hasan,)* at four journies *within* the western point of the *Syrtis*, agrees to the *Euphratas Turris* of Strabo, (Euphranta Ptol.) between *Aspis* and *Charax:* said to be the common boundary of the Egyptian empire (under the *Ptolemies)* and *Carthage*. (Page 836.) One of the other towers, *(Aaias)* said to be very large, contained within it, a *deep well*, or reservoir for rain water. The others may have been to cover wells, also, and to serve at the same time for *sea marks*. It is not unusual, in the East, to build a kind of tower, over wells in the Deserts, to shelter them from the drift sand. The Castilian Ambassadors to Tamerlane, in 1399, mention them.

† Edrisi says (p. 92), that the sea, by penetrating, occasioned the land to sink into pits, or holes.

Pliny and others, in speaking of the Nasamones, brand them with the character of being infamous for plundering of wrecks. This of course, bespeaks a dangerous coast: and the quicksands are precisely on the shore inhabited by these people.*

Strabo furnishes another fact relating to this Syrtis. He says that Cato in marching from Berenice round the Syrtis (towards Carthage) was compelled, together with the army which he led, to pass through *deep sands*, and *inundations caused by the tides*: in effect, corroborating what Edrisi says.

This event happened after the battle of Pharsalia, and the retreat and death of Pompey, in Egypt. The object of Cato was to join his forces to those of Juba and Scipio, in the neighbourhood of Carthage. Strabo says that Cato had 10,000 men, which he divided into separate bodies, that they might more conveniently obtain supplies of water, in that arid region (p. 836.) That they marched on foot, and completed the tour of the Syrtes, from Berenice, in 30 days. Those who examine the distance, will find, that the rate of marching was $11\frac{1}{2}$ G. miles in *direct* distance, or about *one* mile above the mean of ordinary marches; which is 10,6.

Plutarch says that Cato marched in winter from Cyrene; and that he took with him some of the *Psylli*, (whose *former* dominions, which had been usurped by the Nasamonians, he was compelled to pass through) to charm the serpents, which were said to abound there; and to cure their stings.

We trust that the reader is by this time abundantly satisfied, as to the consistency of the ancient descriptions of this Syrtis.

Lucan appears to believe, that the bottom of the Syrtes was growing *firmer*, and the water shallower: and surmises that they (or rather the Greater Syrtis *alone*, for of that only he seems to speak) may hereafter become dry and solid. What changes, in point of form and extent, they may have undergone, or if any, we know

* It has already been mentioned, that our traveller, Mr. Bruce, was shipwrecked here, and proved the truth of this remark.

not: but it is certain that they have hitherto preserved their original properties.

The description of the *Syrtes* by Lucan,* has a boldness peculiar to it; and, it is possible that he may not, in any great degree, have

* Translated by Mr. Rowe.

The *Syrtes*, nor quite of sea nor land bereft,
A mingled mass uncertain still she left;
For nor the land with seas is quite o'erspread,
Nor sink the waters deep their oozy bed,
Nor earth defends its shore, nor lifts aloft its head.
The site with neither, and with each complies,
Doubtful and inaccessible it lies;
Or 'tis a sea with shallows bank'd around,
Or 'tis a broken land with waters drown'd;
Here shores advanced o'er Neptune's rule we find,
And there an inland ocean lags behind.
—Perhaps, in distant ages, 'twill be found,
When future suns have run the burning round,
These *Syrtes* shall all be dry and solid ground:
Small are the depths their scanty waves retain,
And earth grows daily on the yielding main.

Lib. ix.

It may be remarked that the geography of this part of Lucan's poem, is somewhat confused: but we are of opinion that some of Mr. Rowe's notes, are founded on misconceptions, either of the geography itself, or of Cato's progress; and therefore do not even render to the author his due merits.

The palpable errors of Lucan in this part of the geography, are, the conducting of Cato by the *oracle* of *Ammon*, in his way from *Cyrene* to *Carthage*; the placing of the *Garamantes* on the *sea coast*, and the gardens of the *Hesperides* at the *lake Tritonis*; an error into which Strabo himself falls (836), by placing that lake at *Berenice* in *Cyrenaica*. Pliny and Solinus are in the same error: Ptolemy places it at the Lesser Syrtis.

We are aware that many totally disregard geggraphical consistency in poetical description: but for the sake of youth, whose minds frequently receive the first ideas of classical geography from the poets, one could wish that truth had been attended to: we mean, where human agency is given as the means; for there, things should be represented naturally. In this poem, the Romans are represented to have passed by the oracle of Ammon, although they had left it a month's march behind them, at

heightened the description; for our *Goodwin Sand* possesses much the same properties as the shallows and coasts of the Greater Syrtis.

The Goodwin Sand is so firm and cohesive, at *low water*, that Mr. Smeaton found it difficult to insert in it, an iron crow to fasten his boat to; although, as soon as the tide flowed up, it would not bear the weight of a man. We cannot help remarking a vulgar error, respecting the origin of this sand bank. It is unquestionably not a *remnant* of *land*, but an *accumulation* of *sea sand*, by the meeting, and eddy motions of the opposite tides, near the Strait of Dover.

The same cause, operating more remotely, has probably occasioned a general accumulation of matter along the coast, to the westward; but more particularly at *Dungyness*, and in the bay between it and Hastings. Dungyness has gradually increased, and is still rapidly increasing; partly by means of artificial works, partly by the operation of the tides. This great projection of the coast, has been fatal to the ports of *Rye*, and *Winchelsea*; and we account for it, in this way: the more the point projected, the more the stream of the flood tide would strike *obliquely* from the shore near *Hastings*, leaving more and more *still* water, in the bay of *Rye;* where the sand would continually settle, and fill it up, as we now see it. The ebb tide would in like manner be thrown obliquely from the shore of *Hythe* and *Dimchurch;* even more so, than the flood from *Hastings* and *Fairlight*. Thus the accession of a vast tract of rich land in Romney Marsh, has been at the expence of the ports abovementioned. But it is perhaps a matter of little consequence; as the increased size of ships of war, would have rendered Rye of no use at present, had it continued in its former state.

The Goodwin Sand has no doubt been forming, ever since the

their setting out. It ought not to have been through ignorance on the part of Lucan; for the position of the temple of Ammon was well known at Rome in his time.

happy disruption of our island from the continent. Many thousands of years may have passed away before it appeared above water; and when it did, we were not a naval power, and took little notice of it. The story of Earl Goodwin was probably invented after that; and there can be no doubt of the increase of the Goodwin, at the present moment, and of its slow progression towards the state of firm land.

Let those who doubt the facts here set forth, attend to the changes at *Ephesus*, at *Myriandrus* in the gulf of *Issus*, and various other places.

Lesser Syrtis.

Dr. Shaw, p. 194, gives a short description of this gulf,* and its tides; but which, notwithstanding, enables us to judge sufficiently of the nature of the dangers which it presented. After stating that it properly begins at *Cape Capoudia* (that is, *Caput Vada*) he says, "from this cape all along to the island of Jerba (*i. e.* of the *Lotophagi*) we have a succession of little flat islands, banks of sand, oozy bottoms, or small depths of water. The inhabitants make no small advantage of these shallows, by *wading* a *mile* or *two* from the shore, and fixing, as they go along, in various windings and directions, several hurdles of reeds, frequently inclose a great number of fishes. Something like this, has been taken notice of by Strabo."†

It is certain that the single fact of wading a mile or two into the sea, does away all idea of *quicksands*, in this place: so that *these* must necessarily be confined to the *other* Syrtis, although this one may be equally, or even more dangerous (as indeed Scylax reports

* Now the gulf of *Kabes*: by him called *Gabbs*.

† What Strabo says, p. 835, is indeed a most perfect corroboration of Dr. Shaw's report.

it to be), from its exceeding flatness, the intricacy of its channels, and its particular exposure to the raging east winds; but more particularly from the variation and uncertainty of its tides, occasioned by the winds.

Dr. Shaw was informed (p. 194.) that frequently at the island of Jerba, on the south side of the Syrtes, the sea rose twice a day, a *fathom* or *more* above its usual height: but during his stay on the coast, the easterly winds were too violent to enable him to notice it: that is, we may suppose, the sea was kept up to a pitch nearly equal to high water mark, by the pressure of the wind on the waters, in the mouth of the gulf.*

The tides in *the Syrtes* are spoken of by several of the ancient authors, as well as by Edrisi, amongst the moderns; but none of them mention the height to which they rise.

The reports of Dr. Shaw and of the Marquis de Chabert, the one from the information of the natives, the other from his own observation of high water mark on shore, agree very nearly with those made at Venice, where the tide is generally supposed to rise as high, as in any part of the Mediterranean.

Strabo, Polybius, and Pliny, all speak of a tide in this place, but are silent respecting its height. It appears doubtful whether the former (p. 835.) meant to say that it prevailed in *both* Syrtes, or only in the *lesser* one: but we suspect that he extends it to both, which is contrary to the idea expressed by M. Chabert. Polybius gives a striking instance of the rise and fall of the tide, near the

* The Marquis de Chabert, during his short stay on this coast in 1766, remarked that the tides rose three feet: but the marks on the shore shewed a rise of five (French) feet, at the highest tides; agreeing nearly with the report of Dr. Shaw. The Marquis perceived the rise and fall to be more sensible along the coast of *Africa proper*, between C. Bon and Kabes, than elsewhere; and that it diminished, all the way eastward to the Greater Syrtis. (*Hist. de l'Académie des Sciences*, 1767.) This might reasonably be expected. The wave of tide is suddenly opposed in front by the eastern coast of Tunis; and also compressed laterally by the Island of Sicily.

island of Meninx, adjacent to the Lesser Syrtis, by their effects on the Roman fleet, (commanded by Servilius and Sempronius) which grounded on the sands, and thereby lost their equipage and necessaries. Lib. i. c. 3. Pliny speaks with much clearness on the subject of tides *in general*, and particularly, of those in the Mediterranean. He remarks, lib. ii. 97, that although the tides are weaker in inland seas, as yielding less to the power of the sun and moon, yet that these seas are also in some degree affected; more especially in the wider parts which afford some scope to the attraction of those bodies; but that those effects are more obvious near the *shores*, than in the open sea. Having instanced the high tides near to, or about BRITAIN, he also observes that the Syrtes, from the form and position of their shores, give rise to very irregular tides, reducible to no rule; whilst those in the mouth of the strait of Messina, and in the *Euripus*, return at stated intervals; although those intervals may be different from those in the ocean, or in other parts of the Mediterranean.*

But Pliny gives, in one instance, as the effect of the tide, what should rather be imputed to a current: for he says, that during calm weather, ships have been carried by the tide in three days from *Italy* to *Utica* (more probably from *Sicily.)* This was, no doubt, a westerly current, occasioned by the return of the water from the middle and eastern basons of the Mediterranean, after a long continued westerly wind. A current of this kind, is noticed in the Memoirs of the French Academy, in the neighbourhood of Tunis; and happens very frequently in the Caspian sea, on a change of wind.

Edrisi, p. 87, mentions the tide in the Lesser Syrtis, and in the river of Kabes; but at no other place in the Mediterranean sea: which shews, at least, that it is much more perceptible at Kabes, than in other places. Edrisi resided in the island of Sicily.

* He also mentions the tide in the Syrtes, in lib. v. c. 4. Scylax, p. 49, also mentions the different heights of the sea, in the Lesser Syrtis.

Modern observations point out a rise of about five feet at Venice, but only twelve or thirteen inches at Naples,* and at the *Euripus*. One would certainly expect from the form and position of the gulf of Kabes, and of the head of the Adriatic sea, that the tide should attain its *maximum* there: since the wave raised by the attraction of the moon, in the eastern part of the Mediterranean, would in those places, not only receive a *check*, in front, but be also compressed *laterally*, by the contraction of the shores.

From the authorities which we shall presently adduce, we can suppose no other than that this Syrtis did once enter much deeper into the land; and that it even formed a junction with the lake *Lowdeah* within it; the *Tritonis Palus* of the ancients. Otherwise we must not only reject the reports of Herodotus and Ptolemy, but that of Scylax also, the writer of a Periplus, and who ought to have known the truth. But before we set forth the opinions of those authors, concerning the lake and river Tritonis, we shall examine Dr. Shaw's account of them, as well as of the adjoining country, to the borders of the Syrtis.

This lake, to which the Doctor allows an extent of 20 leagues (in his text, p. 212, but upwards of 24 in his map at p. 139,) in length, and six in breadth, is rather, as he observes, *three* lakes in one; for, says he, "it is not all of it a collection of water, there being several *dry* places, which like so many islands, are interspersed over it." He also endeavours to account for Ptolemy's *triple* division of it, by taking the parts thus separated, for the different lakes of *Lybia*, *Pallas*, and *Tritonis*. He adds (211), that "the lake is named LOWDEAH, or the LAKE OF MARKS, from the number of trunks of palm trees, that are placed at proper distances, to direct the caravans in their marches over it. Without such assistances, travelling would be here both dangerous and difficult, as well from the variety of pits and quicksands, that could no otherwise be avoided; but because that the opposite shores (as we may call

* My friend Sir Charles Blagden made observations to this effect, in 1792.

them) have no other tokens to be known by, but their date trees. And as these are rarely seen at above 16 miles distance, great mistakes might be committed in passing over a plain of this extent, (where the horizon is as proper for astronomical observations, as at sea); without such convenient marks and directions."

It appears by his map at p. 139, and his descriptions, that the space between the east end of the lake, and the inmost recess of the Syrtis, is also *flat*, and but little raised above the level of the sea; and is of such a loose sandy nature, as to absorb the waters of a river, that runs into it: for the rivulet of *El Hammah*, which runs from the higher grounds, towards the *east* end of the lake, for some miles, *loses itself in the sand:* page 214. This space between the lake and the sea, appears to be about 22 miles in length; 10 or 12 in breadth, between the foot of a remarkable mountain of salt (*Had-deffa* *) on the north, and the chain of hills which shuts up the Syrtis to the southward,† passing by El Hammah, in its course from the lake of Lowdeah. We are aware that M. D'Anville shuts up the lake from the sea, with a chain of hills: but for this, however, no shadow of authority appears; and Dr. Shaw, on the contrary, describes the intermediate space as being low and flat.

Thus, the lake itself, and its environs, seem to compose a great mass of *sand* and *water*, intermixed in various proportions. Of the whole sea coast of the Syrtis we have already given a description, from the Doctor's own words: "a succession of little flat islands, banks of sand, oozy bottoms, or small depths of water; in fact *so flat*, that the people wade a mile or two miles into the sea, to fix their fishing apparatus." P. 194. And at *Ungba*, the shore itself is a *morass*, or *imperfect* land, to the extent of several miles: p 195.

Again, he describes the land to have *gained*, and to be still *gain-*

* See before, page 642.

† This chain terminates on the coast, opposite to the island of Jerba (Meninx, or *Lotophagitis*) where it forms the boundary of Tunis, on the one hand, and Tripoly on the other. Shaw, pages 139, 197, 229.

ing, on the sea, at Kabes; where the ancient town taken for *Tacape*, is left half a mile inland. P. 196. But Kabes lies *beyond* the lake: for the part of the coast opposite, and nearest to, the lake, is that where the river *Ackroude* falls in. This is however, a periodical stream, and its bed was dry, when Dr. Shaw was there. It must be *here*, that the ancient place of communication with the lake, is to be looked for, if at all: and we have little doubt but that such a communication did actually exist. It is described by Scylax, as well as by Ptolemy. This latter geographer, who had much knowledge of the detail of the coast (as far as relates to *description*, how much soever he may fail in geometrical exactness) positively describes a passage from the Syrtis into the lake, on the *north* of Tacape, (or Kabes): in effect, in the very position just mentioned. Ptolemy, we may conceive, had heard of it, although his information might be vague: but we may suppose Scylax to have been in possession of information of a more critical kind, from navigators; or even from his own observations.

Scylax says, "In this Syrtis (the lesser one) in the island and river of Triton, and the temple of Minerva *Tritonia*. The mouth (or opening) of the lake, is small, and in it, on the reflux of the sea, is seen an island." Then follows a corrupted passage; but which perhaps should be thus: "When the island is *covered* (that is, when the tide is up) ships may enter the lake." He continues to say, that the *lake* is large: being about 1000 stadia in circumference (it is however, much larger): that it is surrounded by Lybian nations, and has cities on its western border, as also fertile and productive lands. P. 49. This particular agrees with Herodotus, who places, as we have seen above (page 637), husbandmen on the west of the lake. Now, to what can the above refer, but to a lake *within* the Syrtis; for the Syrtis itself, has, as we have shewn, a very *wide* opening, and grows *narrower within*? Therefore, the description, if a just one, cannot be meant for the Syrtis, but for a lake within it.

It is unquestionable that Herodotus did not know the Lesser Syrtis by any other name, than that of the lake Tritonis; for it is clearly what he describes for that lake; or more probably an extension of it. Melp. 179. Nor is the idea peculiar to him, Scylax, p. 48, according to the probable reading of the word Δρονίτης, rendered by Vossius, *Tritonites*, calls the whole gulf of *Kabes* "*the great lake of* TRITONIS;" and in which, the *Lesser Syrtis*, called also *Cercinnitica*, is included as a part of it. Hence, it would appear, that, in the times of Scylax, and of Herodotus, it was the custom to call the whole Syrtis and lake, collectively, the lake or gulf Tritonis; although in later times, *i. e.* those of Polybius, Strabo, Pliny, and Ptolemy, the term Syrtis was applied separately to the bay or gulf; Tritonis to the lake.* The application of the same particular name, by Scylax and Herodotus, whilst the authors posterior to Herodotus, use a different name, furnishes at least a presumptive proof, that Scylax wrote very early.

We must therefore regard the lake Tritonis of Herodotus, as the Lesser Syrtis and lake of Lowdeah, *united:* and must conclude that he either *knew*, or *took for granted*, that the dangerous gulf, into which he describes Jason's ship to have been driven; together with the *water* which received the river Triton, and which also contained the island of the same name; were one and the same. He relates, that Jason's ship, the *Argo*, built at the foot of mount *Pelion*, was driven amongst the shallows of that lake, by a storm, from the promontory of *Malea* in Peloponnesus: for he says, that before Jason could *discover* the *land*, he got amongst the shallows of the lake

* Strabo, it appears, had not heard of any other lake *Tritonis*, than that at *Berenice*. (836.) (His lake of *Zuchis*, p. 835, is near the island of *Jerba*.) *Solinus* thought as Strabo did: Pliny *believed* the same, but says that *others* said it was on the west of the Lesser Syrtis. *Lucan*, as we have seen, refers the lake, and its whole history, to the neighbourhood of Berenice.

It is remarkable that neither *Edrisi* nor *Abulfeda* speak of the lake of Lowdeah, although the former mentions the city of *Tuzer*, or *Tozer*, which stands on its very banks.

Tritonis, &c. Melp. 179. Indeed, it might be asked, how a storm from the *northward* could effect this transit at all; since the Lesser Syrtis bears to the *west* of Malea? Had he said that Jason was driven to the *Syrtis*, instead of the lake *Tritonis*, we must of course have looked to the *Greater* Syrtis, in which case a northerly wind might have done it. But it is not, in the present case, the consistency of the history, but the combinations which that history gave rise to, in the mind of Herodotus, that we are to attend to.* He believed that a ship had been driven by a storm, into the lake of Tritonis; and therefore must have supposed it, of course, to be a *gulf* of the *sea*, not an *inland lake*: and the Lesser Syrtis answers to the gulf intended, but must necessarily have undergone the change above-mentioned.

Dr. Shaw was clearly of opinion that the lake in question was the Tritonis, but seems to have had no suspicion of its ever having communicated with the outer gulf. See page 212; and also his map at p. 139. A large island in this lake, situated 40 miles from the gulf, he supposes to be the *Phla* of Herodotus, Melp. 178; or the Triton Island of other authors. But if we are to suppose an ancient communication, now closed up by sand gradually thrown up by the surge of the sea, as has been before remarked at Arsinoe, we may naturally suppose that a great deal of the lake itself has been filled up, by the same operation; and that a large portion of the flat space, between the eastern part of the lake and the Syrtis, was anciently a part of the lake; which might have been separated from the sea, by a bar of sand only, through which the narrow opening described by Scylax, passed. If this be admitted, we may conceive the island of *Phla* to make a part of this *new-made plain*, examples enough of which, are to be found, in other places. And such an idea gives the more consistency to the expressions of Herodotus,

* Mr. Bryant well observes, that references to the *Argonautic* expedition are interspersed in most of the writings of the ancients; but that there is scarce a circumstance concerning it, in which they are agreed. [Mr Beloe.]

and Scylax, when they speak of the island of Tritonis, as being in the Syrtis.

To us, nothing appears more probable, than that such a change should have taken place, in a situation, where the continued operation of the surge of the sea, (on a flat coast, bordered by moveable sands), is that of depositing sand in every hollow part; and where there was no back water to sweep it away: for whilst the communication existed, we should expect a current running *into* the lake, rather than *out* of it; as the evaporation would be, in all probability, greater in the lake, than in the open sea; and as very little water is received into it, from rivers.

Respecting the *river* Tritonis, in our idea, some difficulty occurs. Dr. Shaw takes for granted, that it discharged itself into the *outer* gulf or Syrtis; and therefore naturally fixes on the river of Kabes (or Tacape); a fine stream, said to be of the size of the *Cherwell* (p. 197), and springing from the *hither* side of the chain of *mountains* beforementioned; which mountains approach within about three or four leagues of Kabes, on the SSW. But this river is quite wide of the position of the ancient communication with the lake, admitting it to have existed.*

The lake itself, is at present as salt as the sea, p. 213; which may arise either from the sea water oozing through the sand, or from the salt rivulets, which flow into it from a soil strongly impregnated with that mineral; or even from the salt washed down by dews and *occasional* showers from the salt mountain of Had-deffa, on the

* Dr. Shaw says of this river, p. 197, that the waters of it are "cantoned out into a number of artificial channels," to water the plantations. Pliny remarked the same, lib. xviii. c. 22; for he says, that the waters of a copious fountain at *Tacape*, (the same place with *Kabes* or *Gabbs*) were divided in portions to the cultivators: that is, each had the use of the water during a certain interval of time. The chief culture at present, according to Dr. Shaw, and Abulfeda, is the *Alhenna* or *Henna* plant, which requires much water.

It has appeared that Abulfeda says the same of the waters of *Gadamis*: so that the arrangement appears to be systematical.

border of the lake. See p. 642. It cannot therefore be imagined, that, even if the water of the lake had ever run into the sea, that such an opening could have been denominated a river; and indeed, Scylax speaks of the opening, and of the river, as two *distinct* objects.

If it be allowed that an *extension* of the lake, as well as a communication with the sea, ever existed, we have no difficulty in supposing the rivulet of *El Hammah* to have been the river Tritonis. At present, this rivulet, formed of several *hot* springs, which furnish a number of baths, (and whence its name *El Hammah)*, runs several miles *towards the lake*, and there loses itself *in the sand.* If then, this loose sandy tract occupies a portion of the ancient lake, here we have the river *Tritonis*. Herodotus, it is true, calls it a GREAT stream, or a *considerable* river; but as there is no choice, but between the river El Hammah and that of Kabes, the *Tritonis* could at no rate be larger than the *Cherwell*.* Dr. Shaw makes no comparison of the Hammah rivulet, with any other: but says that " it is conducted in a *number* of *subdivisions*, through the gardens, and united again," after which it directs its course, &c. If it is of bulk enough to allow of these subdivisions, and after losing so much by the operation, as it necessarily must, it still preserves its character of a rivulet, it cannot be *very* small. Nor is it necessary on the score of *celebrity*, to have been a large stream: small fountains being by the ancients equally celebrated with large rivers; perhaps more so, from a more intimate connection with religious worship: and we may suppose that its warmth, and medicinal qualities may have contributed more immediately to its fame. But Dr. Shaw allows it to be of magnitude enough to be *mistaken* for the *Tritonis*, by what he says, in p. 213.

* The well known small river that passes on the east of the city of Oxford, and unites with the ISIS.

Lucan's description of the river Triton, (be it where it may) is that of a spring or fountain merely.

Herodotus and Pliny certainly conduct the river Tritonis into the lake of the same name: but Ptolemy stands alone in calling *that* the river, which leads from the *lake* into the *Syrtis*: possibly, on a supposition that the lake was fresh. Herodotus, Melp. 178, says, the Machlyes "extend as far as a great stream called the Triton, which enters into an *extensive lake* named Tritonis, in which is the island of *Phla*."* Of course, the river should run into the lake, not into the sea. And as it appears (in 180,) that the temple of Minerva was situated amongst the Machlyes, it should have been on the *east* side of the lake, which would agree also to the position and course of the rivulet of El Hammah.

Pliny says, lib. v. c. 4, after speaking of the Philænian altars, "Near to them the great lake, denominated from the river Triton, receives into it *that* river. But Callimachus calls it *Pallantias*, and places it on *this* side the Lesser Syrtis, though many place it *between both*." Thus Pliny, evidently, was doubtful of the *situation* of the river *Triton*, although he knew the relative circumstances of the *lake* and *river* to each other.

In effect, the ancients, as Dr. Shaw justly observes, p. 213, seem to have described this quarter from report, or uncertain information, only;† and therefore we are hardly to expect consistent, much more critical, descriptions. They appear, however, to have furnished us with very good grounds for believing that the Syrtis and lake Tritonis communicated in former times; and that the communication continued, even to the time of Ptolemy. We think it equally probable that the river Triton flowed INTO the lake: and that the island, called by some, Triton; by Herodotus, Phla; toge-

* In this place he represents the *river* Triton, as the boundary; but in 180, the *lake* itself. There is perhaps but little difference. This is Mr. Beloe's translation: Littlebury puts the river in both cases.

† Possibly with an exception to Scylax, as a professed guide to others. The observations of Polybius, would probably have saved us much conjecture, had they come down to us.

ther with the temple of Minerva, (in which the *Triton* is said to have deposited *Jason's tripod*),* was situated near the mouth of it: moreover, that the island in question is now a part of the sandy plain, in which the rivulet of Hammah, the supposed river of Triton, loses itself. For, it appears to us, that the difference between the present state of things, at this place, and the ancient description of the lake and Syrtis, may be reconciled, by merely adverting to the changes that have taken place, on other sandy shores; and more particularly at the head of a gulf, where the tide exerts its *greatest* power of casting up the sand to a higher point. That which has happened at the head of the Red sea, may be adduced in point: and as the shore of the Syrtis is much flatter than the other, the operation has probably gone on with greater rapidity.†

Of the Ægis *and* Temple *of* Minerva, *at the Lake* Tritonis.

Herodotus and Scylax both speak of a temple of Minerva at the lake Tritonis: the first, not positively indeed, but by such strong implication as to enforce belief;‡ but the latter positively; in page 49.

Herodotus informs us, that the *lake Tritonis* forms the boundary between tribes of different manners and occupations; those on the east, being *shepherds* and *Nomades*; on the west, *husbandmen*. Melp. 186, 187, 191. Of course, that lake is a very marked boundary:

* Melpom. 179. † See above, page 474.

‡ Herodotus says, "It is pretended that *Minerva* was the daughter of *Neptune*, and the divinity of the lake *Tritonis*." (Melp. 180.)

"The *Machlyes* at the lake *Tritonis*, have an annual festival in honour of Minerva." (Ib. 180.)

"A Triton placed the *tripod* obtained from Jason, in his temple." This was at the lake of Tritonis. (Melp. 179.)

and the two nations or tribes separated by the lake, are the *Machlyes* on the *east;* the *Auses*, or *Ausenses*, on the west.

It was amongst the *Machlyes* that *Minerva* was particularly worshipped; Melp. 180; whence we should infer of course, that her temple stood on the *eastern* side of the lake;* as we have observed in the last Section.

Again, Herodotus observes, in 188, speaking of the Africans on the *west* of the lake, "the only deities to whom they sacrifice, are the *sun* and *moon*, who are adored by *all* the Africans; they who live near lake Tritonis venerate *Triton*, *Neptune*, and *Minerva;* but particularly the last."

"From these Africans, (continues he), the Greeks borrowed the *vest*, and the *Ægis*, with which they decorate the SHRINE of Minerva: the vests, however, of the *African* Minervas, are made of skin, and the fringe hanging from the *Ægis*, is not composed of serpents, but of leather; in every other respect the dress is the same: it appears by the very name, that the robe of the statues of Minerva was borrowed from Africa. The women of this country wear below their garments, *goat-skins* without the hair, *fringed*, and stained of a *red colour;* from which part of dress, the word *Ægis*† of the Greeks is

* "They have (says the Historian, Melp. c. 180,) an annual festival in honour of *Minerva*, in which the young women, dividing themselves into two separate bands, engage each other with stones and clubs. These rites, they say, were instituted by their forefathers, in veneration of her whom we call MINERVA; and if any one die in consequence of wounds received in this contest, they say that she was no virgin. Before the conclusion of the fight, they observe this custom: she who by common consent fought the best, has a *Corinthian helmet* placed upon her head, is clothed in *Grecian armour*, and carried in a chariot *round the lake*. How the virgins were decorated in this solemnity, before they had any knowledge of the Greeks, I am not able to say; probably they might use Egyptian arms. We may venture to affirm, that the Greeks borrowed from Egypt, the *shield* and the helmet."——

† "From αιξ αιγος, a *goat*, the Greeks made αιγις αιγιδος, which signifies both the *skin* of a *goat*, and the *Ægis* of *Minerva*." Mr. Beloe's Herodotus, Vol. ii. 346, note.

unquestionably derived." Melp. 189. Here he must be understood to mean the people on the *east* of the lake; because it appears by the paragraph which follows, (190) that he was speaking of *African Nomades;* who, by his own account, were confined to the east side of the lake of Tritonis. (186).

The circumstance of the dyed goat skins, is curious, and shews the antiquity of the art of dressing skins in Africa; an art that has always, or at least till very lately, been executed with greater skill, *there*, than in Europe.

It appears from the Scriptures, that *rams'-skins dyed red*, formed a covering for the *tabernacle* in the wilderness, in the days of *Moses;* near 1500 years before Christ:* and we may be pretty confident that these were *brought out of Egypt*, by the Israelites; for it happened early in the very first year of their wanderings; and it is not very probable that the skins could be collected in the wilderness. We are told that the Israelites borrowed of the Egyptians, not only *gold*, *silver*, and *raiment*, but also "*such things as they required:* so that they *spoiled* the Egyptians."† Now amongst the offerings, we find *blue*, and *purple*, and *scarlet*, and fine *linen*, and *goats' hair*,‡ (besides the *red skins* beforementioned); all of which they must surely have taken from the Egyptians: and by the use to which these skins were applied, in the wilderness, we must suppose them to have been considered as an elegant luxury in Egypt; from whence, doubtless, they were brought.

Whether they were manufactured in Egypt, or otherwise, cannot be known; but the contrary is the most probable, not only because the animal which produces the skin, seems to be a native of the Lybian provinces; but because the manufacture is at this day in the greatest repute there. And as the *Fezzaners* at present, fetch them from the centre of Africa, so might the Egyptians of old: and Mr.

* Exodus, ch. xxv. ver. 5; ch. xxxv. ver. 7 and 23: and xxxvi. ver. 19.

† Ch. xii. ver. 36. ‡ Ch. xxxv. ver. 23 and 26: and xxxvi. ver. 14.

Maillet informs us (p. 199,) that *moroquins*, meaning the dyed skins of Western Africa, are amongst the articles imported into Egypt, in modern times.*

Dr. Shaw mentions both sheep and goats, in the countries of Barbary, p. 241 : although he is silent respecting any manufacture of their skins. He speaks moreover of a particular breed of sheep, in the neighbourhood of *Gadamis*, *Wurglah*, and other places of the Sahara, which are nearly as tall as our fallow deer, and with fleeces as coarse and hairy as those of goats. He speaks, however, from information only. Pliny, lib. viii. c. 50, says that the goats about the *Syrtes*, are shorn like sheep. Goats' hair is mentioned as one of the *offerings* in the wilderness : this too, was probably brought from Africa ; and here we are even told where it was produced.

Abulfeda informs us of a celebrated manufacture of dyed skins in *Gadàmis ;* probably of the very kind described above, by Dr. Shaw: for speaking of Gadamis (concerning which, see above, page 623), in his account of Africa, Tab. III. he says, that "the people of Gadamis are celebrated for preparing of skins." But he gives no particulars: a defect we have often occasion to remark. It is proper to remind the reader, that Gadamis is situated in the same quarter with the lake of Tritonis, or Lowdeah ; where the dyed skins were in use at the temple of Minerva.

It is doubtless a curious fact, that the tabernacle of the DEITY in the wilderness, and the shrine of Minerva at the lake Tritonis, should have been decorated, not only with the same *kind* of manufacture, but that also of the same *colour*. We know not the date of the custom in Africa, but it was clearly anterior to the invention of

* We learn from Mr. Beaufoy (Afr. Assoc. 1790, ch. vii. viii. and ix.) that *goat skins* of beautiful *red* and *yellow* dyes are the produce of the country of Kasseena and the adjoining countries on the south ; and are a considerable article of traffick ; as also that they are purchased by the Fezzan traders ; who, no doubt, distribute them along the coasts of the Mediterranean, and consequently in Egypt.

the Grecian *Ægis:* so that it carries us back to a very high period of antiquity; perhaps, not far short of that of the institutions of Moses.

The modern state of this manufacture in Africa, and more particularly in the quarter assigned to the temple of Minerva, furnishes a strong presumptive proof of a curious fact adduced by our Author: and if, as appears probable, the skins mentioned in Exodus were brought from Africa,* we are furnished with another curious fact in the history of manufactures; for, in that case, the manufacture must have existed in the same quarter about 3300 years: and even if the Greeks borrowed the Ægis from the Minerva *Tritonia*, or any other of the African Minervas, it gives a duration of about 3000 years, to the manufactory.

* The Egyptians, from the nature of their country, and habits of life, are more likely to have drawn this article from Africa, than to have had it amongst themselves: and the system of supplying themselves from Africa, as at present, has probably existed from the earliest times.

SECTION XXIV.

CONCERNING THE CIRCUMNAVIGATION OF AFRICA, BY THE SHIPS OF PHARAOH NECHO, KING OF EGYPT.

The ancient Authors divided in Opinion, respecting the Fact of the Circumnavigation *of* Africa—*believed by* Herodotus *and* Pliny; *but doubted by* Strabo, Polybius, *and* Ptolemy.—*General Belief of a Communication between the* Atlantic *and* Indian *Seas.—Probability of the Circumnavigation having been performed.—Slow Rate of sailing of ancient Ships; with some of the supposed Causes—Time required to surround Africa, at that Rate of sailing.—Brief Description of the Voyage set on foot by* Pharaoh Necho.—*The Naval Power of* Egypt, *at that Period, increases the Probability of the Story.—The Ancients had an early Knowledge of the Coasts of Africa, as far as* Guinea *and* Sofala—*the Subject illustrated by a Reference to the* Portugueze *and* Spanish *Voyages of Discovery in the* 15*th Century—those of the Portugueze, prompted by the Information communicated by the* Arabian Geographers: *that of Columbus induced by a prodigious Error in the existing Systems of Geography.*—Globe *of* Nuremberg—*Proof that the Arabs knew the general Extent of Africa, so early as the* 14*th Century, at least.*—Monsoons *and Seasons in the Indian Ocean, known to the* Phœnicians *and* Egyptians.—*Date of the Enterprize.**

It was a matter of undoubted belief with Herodotus, that Africa had been circumnavigated; for he not only gives a short history of the navigation itself, undertaken by order of Necho (or Pharaoh

* The reader is referred to the Map No. X, opposite to this Section, for explanations respecting the navigation, and the direction of the general winds and currents.

Map to explain the Circumnavigation of AFRICA, and the Courses of the principal Streams or Current, in the Atlantic Ocean, the Trade Winds &c.

Spain
Mediterranean
Greece
Sicily
Athens
Rhodes
Crete
Tarsus
Euphrates
Tigris
Charra
Nineveh
Carchemish
Echatana
Opis
Babylon
Susa
Persepolis
Palmyra
Tyre
Arabius
Jerusalem
Plusium
Canopus
Memphis
Arsinoe
Elana
Teredon
Persian Gulf
Harmuzia
Ammon
Lesser Oasis
Greater Oasis
Thebes
Coptos
Yambo
Medina
Arabia
Mocha
Rasalgat
Svagros Pr.
Berenice
Judda
Mecca
Macoraba
Arabian Gulf
Meroe
Halfaia
Darfour
Sennar
Gondar
Coloe
Auxume
Muza
Erythrean Sea
Dioscordes
Nile R.
Mountains of the Moon
Zebee R.
C. Guadafui
Aromata Pr.
Azania
Barbar
Melinda
Menuthias
Comoro Is.
Prasum Prom.
Mozambique
Madagascar I.
South East Trade Wind
Mauritius
Bourbon
Solida
C. of Currents
Delagoa
Dauphin
Hesperides
Southern OCEAN
Equator
Monsoons northerly from October to April, southerly the rest of the Year
Cape of Good Hope
C. Lagullas
Donkingam I. S.E. 1180
Bank
Angra Pequina
Santa Cruz
Cape Negro
Benguela
Angola
Congo
Loango
Mayambo
Cape Lopez
Princes
Fern Po
Calbongas
Benin
C. Calabar
Biafra
Abulitidas
Lybia
See page 689
Whydah
Lagos
Mina
Capes 3 Points
Festos
Capo Palmas
Sierra Leona
Deorum Currus
Ethiopic Sea
S. Thomas
Annobon
S. Matthew
Ascension
S. Helena
Trinidad
Rio Janeiro
South America
C. S. Roque
C. S. Augustin
S. Salvador
I. o F. Noronha
Southeast Trade Wind
South ATLANTIC
Interval of Calms &c.
Northeast Trade Wind
North ATLANTIC
C. Verde Is.
Madeira Is.
Fortunate Is.
Hercules's Pillars
Gades
Strait of Hercules
Obisipo
Tharum R.
Cartenna
Algiers
Carthage
Sicily
Melita
L. Syrtis
L. Tritonis
Gr. Syrtis
Cyrene
Plaiza I.
Cydamus
Phazania or Garama
Tibidium
Morocco
Prom. of Soloeis
Atlas
Bajador
Atlas Major
C. Blanco
Cerne I.
Paradise R.
Senegal
C. Verde
Arsinarium
Gambia
Willis
Stachi
Manding
Tombuctoo
Niger R.
Ghana
Wangara
Barbary
Sahara
Tropic of Cancer
Equator
Prime Meridian
40 E. from Greenwich 50
Published according to Act of Parliament by James Rennell, Oct. 16th 1790.
J. Walker sculp.

Necho) and accomplished by the aid of *Phœnician* mariners; but in a *second* place, remarks, that the Atlantic, the Indian, and the Mediterranean seas, formed but ONE OCEAN: and moreover, in a *third* place, says that Xerxes commuted the capital punishment of an individual of high rank, into that of sailing round Africa. And as no guilt is imputed to the ships' crews so employed, we must suppose that the measure was *deemed*, and perhaps was *known*, to be, practicable, although difficult and tedious.

We cannot conclude any other, than that Herodotus was then addressing himself to a people, who believed in the truth of the discovery; and may suppose that he collected the particulars concerning it, during his residence in Egypt, about 175 years, or less, after the discovery; and whilst it remained fresh in the minds of the people at large.*

Nor was Herodotus the only author of antiquity, amongst those whose works have come down to us, who believed that Africa had been sailed round; for Pliny believed that it had been atchieved by Hanno, Eudoxus, and others; but he is silent concerning the voyage of Necho; whence, it may be suspected, that, as this navigation was made, much about the same time with that of Hanno, Pliny may have confounded them together; referring the actions of the *Egyptian*, to the *Carthaginian*.

It is equally remarkable that Herodotus appears to be ignorant of the voyage of Hanno, unless he, in turn, may be supposed to confound it with the *trading voyages* noticed by him, of the Carthaginians, to the western coast of Africa.

Pliny says, lib. v. c. 1. " that Hanno a great commander amongst

* We observe in a French literary journal, lately published, that M. Gosselin has given a decided opinion that the ancients never went more than 180 leagues to the southward of the strait of Gibraltar; that is, short of Cape *Bajador*. Can we doubt then, the truth of the representations of the Senegal and Gambia rivers, in Ptolemy; or of the coast, to about the length of *Serra Leona*? Or the notices concerning the river Gambia *(Bambotus)* in Pliny?

the Carthaginians, during the most flourishing times of Carthage, was directed to explore the *whole extent* of the coast of Africa." And, lib. ii. 67, " that Hanno sailed round from Gades, to the utmost extent of Arabia; and wrote an account of the voyage: at which same time Hamilcar was sent to discover the remote coasts of *Europe*." *

In the same place he relates from Cornelius Nepos, " that, in *his* time, Eudoxus, a great mariner, sailed from the *Arabian* gulf to *Gades*." Lib. v. 1. Pomponius Mela has preserved the same fact.† Lib. iii. c. 10.

It is equally certain that Eratosthenes *believed* (and perhaps *knew*, from circumstances) that Africa was surrounded by the ocean (Strabo, p. 56): as also that Strabo believed it, but doubted the fact of its having been sailed round. His idea was, that Africa formed a triangle, the *base* of which extended along the Mediterranean sea; and whose vertex was situated at no great distance beyond the fountains of the Nile. P. 825, 826. Thus he conceived that the western side was straight, or rather concave, instead of swelling out; as also that the Mediterranean lay nearly in the direction of the *parallel*, and the Arabian gulf, as near to the *meridian*: consequently, he must have supposed that the western side of Africa, lay in a *south-easterly* direction. ‡

* It may be suspected that Pliny had never read the journal of Hanno, itself, but took his ideas of it, either from extracts, or the comments, or remarks, of others. Otherwise, how could he have been mistaken so far, as to suppose that Hanno had *sailed round Africa?* or, as to disbelieve the fact of his founding of cities on the coast of Africa? lib. v. 1. Probably he collected his ideas from Xenophon of Lampsacus, as he quotes him, respecting the *Gorgon*, or *Gorillean* women, whom Hanno is said to have killed and flayed: and whose skins were hung up in a temple in Carthage. These were, in effect, a species of baboons, concerning which, more will be said in a succeeding Section.

† This was something more than a century before our era. Eudoxus was in the service of *Ptolemy Lathyrus*, king of Egypt.

‡ It was the opinion of most of the ancient geographers, in which they have been followed by the Arabians, that the coast of Africa, from about the termination of

Lastly, Scylax, p. 55, says that it was an opinion with some, that *Lybia* was a *peninsula*.

However, we do not mean to conceal, that others of the ancients, either doubted, or totally denied the fact. We shall mention as the most respectable of that class, Polybius and Ptolemy. The former, who it appears, had been employed by Scipio Africanus the Second, called also Emilianus, in a voyage of discovery, or observation, and had penetrated, at least, to the point from whence Hanno returned (about Serra Leona) says, "It has never been known with any certainty, whether Ethiopia be a continued tract, extending to the south, or whether it be surrounded by the sea." Lib. iii. 4. The infirmities of human nature might induce him to hope that no one had gone farther than himself: for certainly, a voyage to *Serra Leona* makes no figure when compared to the circumnavigation of *Africa*.*

Ptolemy not only denies the junction of the *Atlantic* and *Indian* seas, in which almost all the rest are agreed, however they may doubt of a circumnavigation having been effected, but by his system Atlas, trended to the south, or eastward of south. None suspected its swelling out 12 degrees nearly, beyond the straits.

* Pliny relates, lib. v. 1, that *Polybius* the historian had been sent by *Scipio Emilianus*, during his warfare in Africa, with a fleet to discover the coasts of that continent: and that many particulars of this discovery were committed to writing. (As neither this description, nor that of the *Syrtes*, or of *Cerne*, quoted by Pliny, lib. vi. 31, from the same author, is to be found amongst the remains of his works, we must suppose that they once existed, but are lost.) Pliny speaks of this voyage in an obscure manner; but it may be collected from the circumstance of the hill or mountain, called the *Chariot of the Gods*, (mentioned also by Hanno,) that the voyage of Polybius was continued to about the same extent, with that of Hanno: that is, to the neighbourhood of *Serra Leona*.

Polybius himself, doubtless, alludes to this voyage, when he says, "I have exposed myself to great dangers and fatigue, in traversing Africa, Spain, and Gaul, and in *making voyages* on the *exterior* sea (the Atlantic), by which this part of the world is bounded; that we might be able to correct the mistakes of former writers," &c. Lib. iii. c. 6.

tem, shuts them completely up from each other, by giving such a direction to the opposite coasts of Africa, as to make them diverge from each other; instead of converging, as others did.

Since so many of these authorities concur in the belief that Africa had been sailed round, we cannot readily guess why it should be doubted at present; unless the moderns wish to appropriate to themselves all the functions and powers of nautical discovery. Few persons, we presume, are inclined to doubt that voyages were undertaken by the Phœnicians, to Britain, for tin; by Hanno, to the western coast of Africa, for the purpose of establishing colonies, and to discover new lands; by Scylax, from the Indus to the Red sea, to explore the intermediate coasts; and by Nearchus, from the Indus to the Euphrates for the same purpose. And to this list, may well be added the voyages made at a yet earlier date than any of the others, by the fleets of Solomon and of Hiram, to *Ophir* and other places, for gold, ivory, &c.: voyages, some of which, in point of duration, are said to have equalled that of Necho.*

Now as the difficulties of coasting voyages, do not, in respect of their length, increase beyond arithmetical proportion, what should have prevented Scylax, Hanno, or the Phœnicians, from extending their voyages, had their employers been so inclined, and prepara-

* It seems to be past a doubt, that two distinct kinds of voyages were performed by these fleets: that to *Ophir*, from the Red sea; and to the coast of *Guinea*, from the Mediterranean. The reader may convince himself of this fact, by attending to 1 Kings, chapters ix. ver. 26; and x. ver. 22: and also to 2 Chron. ch. viii. ver. 17; and ix. ver. 21. Although gold made a part of each return; yet some of the other articles differ in one fleet, from those in the other. See also Josephus, Antiq. lib. viii. ch. 7.

It is difficult to fix the place intended by *Ophir*. Bruce, perhaps, may be right in supposing *Sofala*, in despite of his errors and blunders respecting the monsoons, &c. The Author has a tract on this subject, but he forbore to insert it, in a work already much too bulky.

The Phoceans are said, Clio, 163, to have been the first of the *Greeks* who made long voyages: but these appear to have been confined to the Mediterranean and the coasts of Spain.

tions had been made accordingly? It is certain that the detailed voyage of Nearchus, and other histories of ancient navigations, shew that the ships of those times advanced at a remarkably slow rate: and Nearchus slower than almost any other; perhaps, because his fleet was in a great part, composed of vessels that were ill calculated for sea voyages; being such merely as could be procured: for his equipment was in some degree casual; and therefore, doubtless, in many respects deficient. Nor does it alter the case, that a *part* of his fleet was composed of *long* ships, built for the purposes of war, and distant voyages; for the rate of the slow goers must necessarily have determined that of the whole fleet.

However, the disadvantages of delay, might be compensated by security; as the nature and construction of those vessels were such, as to enable them to procure shelter in most situations. The difficulty of procuring provisions in long voyages along hostile shores, appears the most arduous part of the task; and it was morally impossible to store those vessels with provisions for such long intervals, as are described. But when we read of voyages of *two* and *three* years, both in sacred and profane history, we ought to suppose that suitable arrangements were made, to meet the exigencies of the occasions, although we may not be able to guess the mode of accomplishing them!

Herodotus indeed, comes directly to the point, by saying that the vessels of Necho waited in Lybia, the ripening of a harvest, from grain which they *themselves had sown*. This account, we have no doubt, will be discredited by many; from the obvious difficulty of pursuing the whole process undisturbed, even in a climate where the interval between seed time and harvest, is only three months. We shall say no more, than that we are unacquainted with the particular habits and œconomy of the navigators of that day: that they had plenty of time allowed them to perform their navigation in, had they even waited *two* harvests, instead of the *one*, which the history records. It may, however, be remarked, without attempting to

defend the truth of the assertion absolutely, that such an idea, as that of travellers depending in some shape on a harvest of their own, is not confined to this instance alone; for amongst the preparations made by Tamerlane for his march to China, in 1405, there were waggon loads of *seed corn*, to sow the fields on the road. See Sheref. Timur, Book vi. c. 28.*

We have collected a number of examples of the rate of sailing, of the ships of the Phœnicians, Grecians, and Egyptians; that is, of the best managed, and best constructed ships, of those days; as also a number of particulars respecting that part of their œconomy, which relates to sheltering themselves, and communicating with the shore; in order that we may have before us, sufficient *data*, to determine the rate of movement, and a general idea of their mode of navigating.†

* As also, a vast number of *she camels*, for milk. A gentleman who has been at Morocco, reports that the horses in the Tombuctoo caravans, are often fed with the milk of camels.

† 1. "Miltiades, under *favour* of an *easterly* wind, passed in a single day from *Elæos* in the *Chersonese* (of Thrace) to *Lemnos*." Herodotus, Erato, 140. The distance is 38 G. miles only.

2. The fleet of Xerxes sailed in three days from the *Euripus* to *Phalerus*, one of the ports of *Attica*. Urania, 66. This is about 96 G. miles, or 32 per day. The fleet was unusually great.

3. Nearchus reckoned the promontory of *Maceta* a day's sail from him, when he first discovered it; and it is shewn by circumstances, that the distance was about 38 G. miles. (Arrian's Voyage of Nearchus.)

4. Scylax allows $75\frac{1}{4}$ days for the navigation between *Canopus* and the Pillars of Hercules; equal to about 32 per day. (Periplus of Scylax, p. 51.)

5. The Red sea is 40 days of navigation. Euterpe, 11. The track which a ship must necessarily make through it, is about 1300 G. miles, or less; so that the rate may be taken at 32 per day.

6. The Euxine, is said by the same Author, Melpom. 186, to be 16 days navigation, from the *Bosphorus* to the *Phasis*; producing about 38 per day. He says, indeed, nine days, and eight nights; which, according to his own rule, given in the same place, is equal to 16 *days*.

7. The *Caspian* sea, is said by the same Author, Clio, 203, to be 15 days navi-

It is conceived that the fact of the slow progress, will be readily admitted; since, in addition to so many other examples, we have the reports of Nearchus and Herodotus; the first, respecting the length of a day's sail; the latter, the space actually sailed through, in the course of a day, and remarked as an uncommon *long run*, in those days: as also the time required to navigate the Red sea and the Euxine: the latter of which appears to be reported from Herodotus's own experience. In effect, none of them differ materially from the rest. The mean of *all*, then, being so low as 37 G. miles, we are naturally led to inquire why there should be so great a disproportion between the sailing of ancient, and modern ships; since a day's sail (of 24 hours) of a modern ship, cannot be reckoned

gation, for a *swift rowing* vessel: and being about 630 miles long, this allows a rate of 42.

8. Pliny, lib. vi. 23, says, that it was 40 days sail from the outlet of the Red sea, to the coast of *India* (Malabar) which is about 1750 G. miles, equal to 44.

(He also reckons it 30 days sail from *Berenice*, to the outlet of the Red sea: this would give about 30 per day only.)

Mean of the 8 examples - - - - - - - - 37.

Mean of the 6 first, which may be reckoned the fairest, and are the most to the purpose 35.

☞ We may add, that the mean rate of Nearchus, was no more than 22½, during his whole voyage; and less than 30, through the Persian gulf. But we regard his rate as unusually low, for the reasons above stated.

It appears from Procopius (Vandal War, lib. i. c. 12.) that the fleet of Belisarius was 16 days on its passage from *Zante* to *Caucana* in Sicily. The distance being about 320 G. miles, gives 20 such miles per day, or about 250 stadia. This must be regarded as the effect of the oars, generally, there being very little wind, or almost a continued calm.

Diodorus, lib. v. c. 2, says, that tin was carried across, in four days, from Britain to Gaul, where it was landed, and carried across to the mouth of the Rhone, in 30 journies. From the descriptions, and the circumstances, altogether, it appears to have been embarked at St. Michael's Mount, in Cornwall, and landed near the other mount of the same name, in France; perhaps at St. Maloes. This would give a rate of about 40 miles per day. But he says that the western promontory of Britain is four days sail from the opposite continent.

at less than *three times* that of the ancient ones? Even the worst description of modern vessels, of which we have any knowledge, seems to be superior to the ancient ones in respect of their *daily* progress; and therefore we suppose that some cause is to be looked for, besides merely that of dulness of sailing. That this had a considerable share in the delay, is evident by the circumstance mentioned by Pliny (if we may depend on his numbers) of the Roman ships sailing no more than about 44 G. miles per day across the open sea, between Arabia and India, in which we cannot suppose them to have absolutely stopped at night, as in their coasting voyages, and in soundings. We may reckon at a medium, 13 to 14 hours of daylight throughout the year, in that parallel; so that 3 miles per hour for the daylight, makes up the whole sum, (bating 3 or 4 miles), which is a very slow rate of sailing before the brisk monsoon, that prevails in that sea; and leaves little or nothing for the night: and although it is possible, or even probable, that they may have *lain to*, during that interval, yet 10 or 11 hours *drift*, must amount to something.

However, we shall not lay so much stress on this instance, (being a solitary one of the kind) as on the others, in the coasting navigation. In these, it appears almost certain, that the ordinary mode of sailing, was confined to daylight; for without a compass, or a substitute for it, great danger must have been incurred, in the night, where a small error in the angle of the course, would be fatal. Light-houses on prominent parts of the coast, would doubtless, direct them, but this could not be a general arrangement, and must have been confined to particular coasts only. Notwithstanding, sailing by night was doubtless practised occasionally, as in clear moonlight, or at other times, when necessity pressed. For, in the case of Nearchus, it was done more than once, when he was assisted by a pilot, and on a pretty straight coast; and perhaps by the aid of moonlight also. But then, famine pressed; or the nature

of the shore, as at the mouths of the Euphrates and Tigris, prevented his coming to an anchor, or landing.

Sailing by night, is also implied, where Scylax admits *nights* as well as *days*, in his calculation of the distance between Carthage, and the Columns of Hercules; a navigation by no means intricate, and perhaps assisted by light-houses, or signal fires. It must also have been occasionally practised in the Euxine. See note to page 678, article 6.

In effect, then, we must suppose a rate of sailing, of only $2\frac{1}{2}$ *sea* (or geographic) miles per hour, or less than 3 at the utmost. The cause might either be the defective form of the ship's hull, or the faulty disposition of the cargo or ballast, which might not permit them to spread sail enough. Certainly, the sails of ancient ships are represented on medals, as being remarkably small; and do not seem to be on a par, in that respect, even with the Chinese junks: which, like the others, have generally *lower masts* only.

If we reject the examples given by Herodotus, on the Caspian sea; and by Pliny in the open sea, as being both out of rule; we have 35 only, for the mean rate per day, of the Grecian, Egyptian, Phœnician, and Carthaginian ships, between the time of Darius Hystaspes and Alexander, generally; and in which none rise above 38, or fall below 32, sea miles.

Now the distance from Suez at the head of the Red sea, to the mouth of the Nile, round Africa, coastwise, may be about 224 degrees of a great circle: and if we allow 23 miles per day, as a mean rate of sailing, since 38 appears to be a rate greater than ordinary, for a single day; and as there are foul winds, and delays of various kinds to be taken into the account; such as procuring water and provisions by the way; the former of which may be regarded as a constant care, and practised whensoever an occasion offered;* it

* For instance, Nearchus records, as an unusual circumstance, his taking on board *five* days water, at the river *Arosis*; because he would not be able to land at the mouths of the *Susian* and *Babylonian* rivers. (Arrian's India.)

appears that 585 such sailing days, or say 19½ months, would be sufficient for the performance of the voyage. And if to this, we add a twelvemonth more for the harvest, for repairs of the ships in different ports, and for rest and refreshment; we have an aggregate of no more than two years, and somewhat more than half of the third year; which comes within the time specified. However, we do not by any means intend to commit ourselves, in an opinion respecting the *œconomical detail* of voyages, for which there appear no *data* to guide us; but which voyages, notwithstanding our ignorance of the detail, it may have been very possible to execute.

Herodotus's short narrative of this remarkable transaction, is as follows:

"Except in that particular part which is contiguous to ASIA, the "whole of AFRICA is surrounded by the sea. The first person who "has proved this, was, as far as we are able to judge, NECHO, king "of EGYPT. When he had desisted from his attempt to join by a "canal, the Nile with the Arabian gulf, he dispatched some vessels, "under the conduct of *Phœnicians*, with directions to pass by the "Columns of Hercules, and after penetrating the *northern* ocean, "to return to Egypt. These Phœnicians, taking their course from "the Red sea, entered into the *southern* ocean: on the approach of "autumn they landed in *Lybia*, and planted some corn in the place "where they happened to find themselves; when this was ripe, and "they had cut it down, they again departed. Having thus con-"sumed *two* years, they in the *third* passed the Columns of Her-"cules, and returned to Egypt. Their relation may obtain attention "from others, but to me it seems incredible, for they affirmed, that "having sailed *round Africa*, they had the sun on their *right hand*.— "Thus was Africa for the *first time* known." Melpomene, 42.

The enterprising spirit of *Necho* is further marked by historians. Besides his commencing the canal abovementioned, and which he is said to have discontinued, because admonished by an oracle, he built ships of war in *both* seas (Mediterranean, and Red sea); his

fleets were occasionally employed, and vestiges of his naval undertakings were still to be seen, in the time of Herodotus.* He marched through Palestine and Syria to attack the Assyrians near the Euphrates; and in his way, defeated and slew the king of Judah, (Josiah) who opposed his *march*, at Megiddo.† Defeating also the Assyrians (or Babylonians) he took *Carchemish*, a large fortified city on the Euphrates, and placed in it a strong garrison:‡ and in his way homewards, took possession of JERUSALEM,§ which Herodotus names *Cadytis*, and describes as a considerable city equal to the size of Sardis. We may estimate the naval strength of Egypt, about this period, by the wars entered into, with the Tyrians and Sidonians, by Apries,‖ who succeeded to the throne six years only after the death of Necho. He took Sidon, and reduced Phœnicia and Palestine generally.

Thus, in respect of naval power and enterprize, the Egyptians appear to have been on a most respectable footing, at that day; and, aided by the yet superior skill and experience of the Phœnician commanders, who are said to have conducted the expedition, every success might naturally have been expected from their joint efforts.

It would be idle to suppose that a voyage of this extent had been

* See Euterpe, 158, 159. How his fleets were employed, we are not told. The voyage of discovery, no doubt, is one of the services alluded to.

† 2 Kings, xxiii. ver. 29. Euterpe, 159.

‡ *Carchemish* is doubtless intended for *Circesium*, now *Karkesia;* in ruins. It is a pass into Mesopotamia, from Syria; situated at the conflux of the rivers Kabour and Euphrates. For Carchemish, see 2 Kings, xxiii. ver. 29; and 2 Chron. xxxv. ver. 20. Procopius describes it in his Persian war, lib. ii. c. 3: and Amm. Marc. lib. xxiii; who says, it was fortified by Dioclesian. When Xenophon passed that way, there seems not to have been any town, or fortress. Anab. lib. i.—He calls the Kabour, the *Araxes*.

§ 2 Chron. xxxvi. ver. 3 and 4. Euterpe, 159.

‖ Euterpe, 161; and Diodorus, lib. i. c. 5. Apries is the Pharaoh Hophra of Jeremiah, ch. xliv. ver. 30.

undertaken, without a previous knowledge of the positions of the coasts of Africa, as well in the Atlantic, as in the Indian ocean; to a very considerable extent, southward: on the contrary, we should rather conclude that it was *such* a state of knowledge alone, (and of which we trust we have given sufficient proofs) which dictated the measure. Moreover, it may be supposed that the people of Africa communicated with each other by *caravans*, at that day, as they do at present; in some degree at least; whence some general ideas of the *extent*, if not of the *form* of the continent, must have been collected by the Egyptians; who were not only a commercial people, but had, as we have seen, in earlier times, extended their conquests into Ethiopia; and were by no means a people who wanted curiosity. It is probable, therefore, that no part of Africa remained unknown, save that which is at present the *least known* to Europeans; and that is, the part beyond the mountainous *belt* which runs across it, about the height of the sources of the Nile. It is also to be supposed, that this knowledge existed, even before any progress was made in exploring the coasts of the ocean.

In effect, we conceive it to be probable, that the Phœnicians and Egyptians, had, at different times explored the shores of this continent, as far as the coast of *Guinea*, on the one hand; *Mosambique* and *Sofala*, on the other; before even the idea of the great undertaking of the CIRCUMNAVIGATION presented itself. Such partial discoveries on each side of the continent, were likely not only to prompt the inquiry, but to encourage the hopes of the adventurers also: in the first instance, by extending the sphere of their knowledge, on the side from whence they departed; and by affording a prospect of returning the sooner, within it, again, on the opposite side. And in our idea, much more probability attaches to the account, from its describing the navigation to *commence* in the *east*, than in the *west*; since it seems to prove, that the determination arose from a *previous experience* of the winds and seasons: for the undertaking would have been a much more difficult one from the

west, in the *then* state of navigation, than from the east; as will be shewn in the sequel.

The progress of the Portugueze discoveries of this very continent, in latter times, under the patronage and direction of the immortal Prince Henry of Portugal, was consonant to these ideas. The works of Ptolemy would inform the Portugueze that the coasts of Africa, were known in his time, as far at least as *Serra Leona* on one side; *Mozambique*, or more probably, *Sofala*, on the other; and although it might remain a doubt, how much farther the continent extended southward, yet Herodotus and Pliny would inform them, that it had been circumnavigated; Strabo and others, that the Atlantic and Indian seas formed a junction, on the south of Africa; facts, which must have had great weight with those who projected the discovery, even if they had not read the work of Abulfeda.

It is well known that a considerable interval elapsed between the settling of Congo and the discovery of the Cape of Good Hope: as well as that the latter discovery, preceded, by a considerable interval, (that is, about 11 years) the arrival of De Gama in the Indian seas.*

The progress of the Spanish discoveries in South America, was exactly similar. That continent was discovered by piecemeal; and the passage into the south sea by the strait of Magellan, not till very long after the coast had been explored to the parallel of 35° S, which was itself effected within 10 or 11 years after Columbus's first discovery of the Bahama islands.

It is not, perhaps, so universally known, that the splendid discoveries of Columbus were prompted by a geographical error of a most extraordinary magnitude, which placed the farther extremity

* De Gama is said to have consumed 13 months in his voyage from Lisbon to the hither part of India, although ships very commonly go from London to the Ganges, in four months, in the present times. Therefore the difference in the length of the voyages, between the ancient navigators and De Gama, is not more striking than that between De Gama and the navigators of our times.

of Asia at so great a distance to the east, as to encourage a hope of reaching it more speedily, by the west. This error amounted to no less than *one hundred and fifty degrees* of longitude; as appears by the famous globe of Nuremberg, made, by Martin Behaim, in 1492, the date of Columbus's voyage. Nay, some at least, of the geographers of that time believed that Columbus's new discovery was really a *part* of *Asia*; for, in a map made early in the 16th century, it is joined to the eastern extremity of that continent. Errors have seldom been productive of so much good; but it has happened in some other instances, that ignorance of impending difficulties, and of the labour to be encountered, has ultimately occasioned success, in the most difficult enterprizes.*

Even the system of Ptolemy, exceeds in longitude, *one third* of the truth, between Cape St. Vincent and the western part of China. This error may be estimated at about 58 degrees:† but the maker of the Nuremberg globe, Martin Behaim, seems to have disdained all bounds; as if he wished to inspire his friend Columbus with the certain hopes of reaching Asia by the *west*: since he allows little more space between Europe and India, *westward*, than there really is between them, in the opposite direction.

* In effect, the Nuremberg globe allows no more than about 90 degrees of west longitude between Ferro and the eastern part of India; which is rather 240. Between Ferro and *Cathai*, Ferro and *Cipangu*, (meant for northern part of China, and Japan), he allows only 70 degrees; but they are, respectively, 220, and 200: consequently, the general error is 150 degrees; or 10 hours of the 24, in time.

† Eratosthenes and Strabo, great as their errors are, in parts of their details, are not out more than about 10, and 5 degrees, respectively, in the length of the two continents, in the parallel of Cape St. Vincent and Rhodes; and their errors are of the opposite kind to those of Ptolemy and Behaim. The sentiment of Eratosthenes therefore, was of a different kind from that of the modern navigator, as being prompted by a different idea of the state of things: for he says (Strabo, 64) that "if it was not for the vast extent of the *Atlantic* sea (all was *Atlantic* to him, from *west* to *east*) ships might navigate from *Spain* to *India*, keeping nearly in the same parallel; or *find new lands during their course*." See the statement of the distances, as given by the above authors, in p. 170 of this work.

However, it is very clear that had not Columbus effected the discovery of America when he did, the Portugueze must, in the course of their voyages southward, and at no great distance of time, probably, have fallen in with the coast of Brazil; in which case, *South* America would have been the first part discovered of the *new* continent.* But these circumstances do not in the least diminish the merit of Columbus; the plan of whose voyage was entirely unconnected with any other.

The speculation of COLUMBUS, then, was to reach a *known* distant country, by a supposed shorter road than the one which the Prince of Portugal had recently explored. This speculation was not only *deep*, but was also such a one as could receive but little aid in the execution, from the preceding labours of others. But Prince Henry was both prompted in the design, and assisted in the execution, by such labours; but to what extent we cannot trace. However, we strongly suspect that he had received the most positive assurances of the extent of the African continent, southward, and of the consequent communication of the *eastern* and *western* seas, from the *Arabians*; and more particularly from the works of Abulfeda.

From what is set forth by this Author, who wrote a century and a half before the Portugueze discovery of the passage round the Cape of Good Hope;† and probably from notices that had existed amongst the Arabs, for many ages prior to the date of his work; it appears, not only that the *fact* of Africa being surrounded by the ocean, was well known, in the East, but even the *general form* of

* The Cape of Good Hope was discovered in 1486; America in 1492: and De Gama sailed round the Cape to India, in 1497; so that the discovery of Columbus came between that of the Cape, and the first voyage into the Indian sea.

† D'Herbelot says that Abulfeda was born in the year of the *Hejerà* 672, and died in 732. According to the very useful table, which exhibits the correspondence of the years of the Hejerà, with those of the Christian era, framed by my friend Mr. Marsden, the above years of the Hejerà correspond to 1273 and 1331 of the Christian era.

that continent, also. This applies with great force to the Portugueze scheme of discovery, as it can scarcely be doubted, that, even if copies of this author were not found in the libraries, in *Spain* and *Portugal*, yet that at least, Prince Henry of Portugal, who had travelled in Mahomedan countries, and had read and inquired so much, with a view to promoting his favourite object of discovery, must have seen them.*

It appears, however, that Abulfeda's geography was not known in England, in 1583; for we learn from Mr. Newbery (then in *Syria*), that he was commissioned by Mr. Hakluit to inquire after it, but was unsuccessful. Probably his business did not carry him amongst that class of people who were acquainted with such authors.†

Unless we are to suppose, that the knowledge of African geography was more confined, in the flourishing, and commercial times of ancient Egypt, than during the Caliphate, we may conceive that the people of that country, and of Arabia, knew generally, during the former period, those facts which are set forth by Abulfeda.

For the same reason as we have extracted from Abulfeda and Edrisi, in a former part of our work,‡ we shall here extract from the former, his account of what he styles the *Great*, or *Ambient* sea.

" It is called the *Ambient* sea, because it surrounds the *whole extent* of the *continental lands*. And hence Aristotle calls it the *Crown sea*, as if it surrounded the earth, just as a crown does the head. In the description of this sea, we shall observe the following

* It is admitted by *De Barros*, that Prince Henry collected much information concerning the continent of Africa from the Arabs; from the people of Fez and Morocco; and from travellers in general. He was himself at the siege of *Ceuta*, in 1415, and is said to have brought home with him from Africa, a strong inclination to discover new lands and seas. He was then, only in his 21st year.

† Hackluit's Collection of Voyages, Vol. ii.

‡ That is, concerning the Nile. See p. 442.

method; namely, in setting out from the *western* side, and proceeding thence to the *southern*, and successively to the *eastern* and *northern*, and at last complete the circuit, by returning to the west, from whence we set out.

"The western border, then, of this ambient sea, namely, that which washes Africa and Spain, is called the OCEAN; in which are the fortunate islands, ten degrees distant from the shore of Africa.* Some reckon their longitude from these islands, others from the (western) shore of Africa.—This sea begins to extend itself from the most southern shore of *Maurətania*, till it has passed the Desert of *Lamtun*, which is a vast wilderness of barbarians, situated between the borders of *Mauretania*, and those of the various tracts of country, belonging to the *Nigritæ*. From thence it stretches (yet further) towards the south, along *uncultivated*, *uninhabited*, and *unfrequented* countries, until it has passed beyond the *Equator*: after which, it bends to the *east*, behind the mountains *El Komri*,† from whence the *Nile* of *Egypt* has its sources. Again, it proceeds southward, and afterwards turns again to the eastern quarter, passing by uncultivated shores, behind the regions of the *Zengitæ*; whence it takes a *north-easterly* course to its junction with the seas of *India* and *China*. It then takes an easterly course, till it reaches the eastern extremity of the continent; that is, the region of *China*; whence it bends northward, and in its progress shuts up the eastern quarter

* Here is a proof, amongst others, that Abulfeda thought the coast of Africa lay very much in the direction of the meridian, from the strait of Gibraltar, southward: and this accounts for his idea, that the sea passes at the back of the mountains that give rise to the Nile.

Another proof is, that when he speaks of the mouth of the *western* Nile, intended for that of the Senegal river, he says that it is situated at 10½ degrees to the east of the fortunate (*i. e.* Canary) islands. He perhaps took this general idea of the bearing of the coast, from Ptolemy.

† That is, the *lunar* mountains, or mountains of the *moon*, as they are called by Ptolemy. And it appears from Mr. Browne, that they are really so called in Africa.

of China, till it *faces* the *mound* or *rampart* of JAJUJE and MAJUJE (GOG and MAGOG).* Thence it bends *westward*, passing by regions, of which we are ignorant,—and having passed the territories of the *Russians*,† it takes a *SW* direction, and then again *westward*, along the coasts of various *Infidel* nations, till it comes opposite to *Italy*, on the west. [Perhaps it should be *north*, as the *German* ocean seems to be meant.] Thence bending *southward*, it washes the countries lying *between* Italy and Spain,‡ which having passed, it proceeds to the shores of *Spain;* and finally, having extended itself along its western side, it comes opposite to *Sabta*, *(Ceuta)* which is situated at the passage or *crossing* place [of the strait of *Gibraltar*] from whence we set out."§

Although this account is satisfactory, in respect of the mode in which the ocean encircles generally the old continent, yet it will be perceived that beyond the western part of it, Abulfeda knew but little.

One particular is striking. He had an idea in common with the Greeks, that the eastern ocean turned very *short round* to the *west*, after it had ascended to the parallel of Rhodes; for so he describes it. On the north of Europe he is very obscure: and *Siberia*, as we have before observed, was not known at that time to exist; even by the people of Europe.

With respect to *Africa*, we find him extending the great body of it, to the *south* of the Equator, *before* it turned to the east, (an error of about four degrees) but as he had placed the sources of the Nile to the south of the Equator, and supposed also that the ocean ad-

* See before, page 152.

† At this time, Siberia was not known, even to the Russians.

‡ *Spain* and *Italy* were better known to the Mahomedans, than the rest of Europe, in general; and *Spain*, particularly, from its having been in their possession. This is in fact, the only European kingdom, particularized by Abulfeda.

§ See *Prolegomena*, in Reiske's translation of Abulfeda, in Busching's Hist. and Geogr. Mag. Vol. iv. p. 140.

vanced to the back of the mountains that contained them, he could not well do otherwise. For the rest, as the southerly position of Sofala, seems to have been well known, it is not improbable that he might, in idea, allow to Africa, the full extent which it is now known to have. We now return to the subject of the circumnavigation.

It must be allowed, that such a degree of knowledge as has been supposed, of the two seas which wash the opposite coasts of Africa, would have furnished the ancient navigators with opportunities of acquiring a general, if not a particular, knowledge of the *monsoons*, as well as of the NE trade wind: and although they might not have penetrated so far into the Atlantic, as to have known the SE trade, yet from having experienced a southerly monsoon in the Indian sea, on the south of the equator, they might expect a like wind in the Atlantic, at least half the year.

The want of a substitute for the mariner's compass, is insisted on by many, as having been a prime obstacle to the accomplishment of such a navigation. But we do not view the matter in such a light; for although it may be admitted as an insurmountable obstacle to the discovery of AMERICA, in the way to which, an extensive ocean was to be crossed, yet the voyage in question was a *coasting voyage*; (although indeed, on a scale very different from those to which the term is at present applied, and nearly appropriated.)* Nor were the voyages of discovery of the Portugueze, in this quarter, any other than coasting voyages, the only mode in which they could well be prosecuted; where the object was to trace the coast of a continent, with a view to discover and to double its extremity. So that the discovery of *this* passage might have been effected, had the magnet never been applied to the compass; but, in all probability, that of America, never. This, in our idea, is the true state of the

* The voyages of the Phœnicians to Britain, as well as those of Hanno, Nearchus, &c. were doubtless confined very closely to the shore.

matter.* But it is however certain, that the Egyptian and Roman fleets sailed on a *direct* course from the outlet of the Red sea to the coast of Malabar, 1750 miles, without a compass, although it took them up 40 days. They were, however, *certain* of a *fair* wind both in going and returning, for they took advantage of the monsoons: but those who embarked in the American discoveries, had to contend with variable winds, and had also a wider ocean to cross.

We may at least suppose that those Phœnicians who directed the voyage, had their wits about them, like other men, and profited by their knowledge of seasons, obtained during their voyages in the Indian sea, and in the Atlantic; and though they might be unable to guess the circumstances of things, *further on*, they would not, at least, have made so great a mistake at the outset, as to attempt to sail *against* the monsoon; since the changes must have been familiar to them: for periodical winds prevail, even in the Red sea.

The date of this first circumnavigation of Africa, may be supposed to be about 600 years before our era; 175 before Herodotus wrote; and perhaps about 400 after the voyages made by the fleets of Solomon and Hiram.

* It cannot be doubted that the *progress* would have been *expedited* by the aid of the compass; because by its help, a ship might sail on, during the night, as far as their knowledge extended during the day: whilst, under other circumstances, they must have lain still.

SECTION XXV.

THE CIRCUMNAVIGATION OF AFRICA, CONTINUED.

Supposed Progress *of the* Voyage, *according to known Circumstances, and the Nature of Things.*—*Great Advantages in favour of a Voyage by the* West.—*Winds and Currents generally favourable, the whole Way from the* Red Sea *to the Coast of* Guinea.—*Difficulty respecting Provisions.*—Current *generally* adverse, *along the Coasts of* North Africa.—*General Idea of the Streams of Current in the* Atlantic *Ocean—a Knowledge of them, highly important to modern Navigators.—Progress of the Expedition, along the* Coast *of* Guinea *to* Senegal.—*The Navigators wait a Harvest on the Coast of* Lybia.—*Difficulty of the Passage from* Senegal *to the* Region *of* westerly Winds.—*Disadvantages of ancient Ships in respect of Capacity for Stowage: Advantages in respect of obtaining Shelter.—Facts illustrative of the Œconomy of ancient Ships; proving that they were generally secured by being drawn up on the Beach.—Remarks, naturally arising from the foregoing Navigation.*—Forgotten *in* Egypt, *in the Time of* Ptolemy.—*A parallel Instance in Europe.—Voyage of* Sataspes *to circumnavigate Africa by the* East, *fails.*—Carthaginian *Voyages of Traffic to the western Coast of Africa.—The Narrative of the Expedition of* Necho, *perhaps discredited, by Reason of its Brevity.*

It may be conceived that the Phœnicians employed in this voyage of discovery, by Necho, taking advantage of the proper seasons, entered the *Erythræan* (or Indian) sea, during the early part of the *northerly* monsoon; that is, at the latter end of October, or beginning of November; when they might be certain of a fair wind, as far as the *southern* tropic; and also of a strong current in their

favour, the whole way round the Cape of Good Hope. They might arrive at the southern tropic by the end of January; that is, in the midst of the summer of the southern hemisphere; and of course, during the best time to accomplish the most difficult part of their voyage, the doubling of the southern promontory of Africa; and overcoming the difficulties of a navigation of more than 20 degrees of a great circle, through a tract of variable winds; and most commonly in winter, a stormy sea also. For this service then, they had a great part of the summer and the autumn before them: and it is to be noticed, that through the principal, and most critical, part, of this space, the sea, along the coast, has a regular motion in their favour, to the westward, or SW; as indeed had been the case, the greatest part of the way from the Red sea, at the season in which they navigated it: although such a circumstance would have been felt of less importance *there*, because of the constant fair wind.

It is a circumstance as generally known, that in the south Atlantic, from about the 30th degree of south latitude, to the equator, or beyond it, a regular SE wind (thence named the trade wind) prevails in the *open* sea; and within the influence of the land, a *southerly* wind, varying only some points to the eastward or westward, according to the season, or time of day; partaking, in some degree, of the nature of land and sea breezes. (This is more particularly the state of things, in *April* and *May*.) Throughout this space, then, they would find a *fair* wind, and but little bad weather: and such a wind, as we have said before, it is probable, they would, from analogy, have calculated on, at the season in which they might expect to arrive in this parallel, in the Atlantic. This is, however, reasoning on the supposition that the Egyptians had the same general idea of the extent of Africa, southward, that the Portugueze might have had, previous to *their* expeditions; and which we believe to have been really the case.

Thus far, then, circumstances have appeared to be clearly in favour of a circumnavigation *from the east*, in preference to that from

the *west*; the northerly monsoon in the Indian seas, corresponding with the summer of the southern hemisphere; and the wind having at all times an inclination to the southward, along the western coast of Africa, within the same hemisphere: together with a current to the northward for the most part. For, admitting that in the summer season, the variations of the wind might enable them to *work* down this coast to the Cape of Good Hope, (in which perhaps we have admitted a great deal, considering the structure of ancient ships) yet neither could they, in all probability, have borne the buffetings of the storms *there*, when assailed by a strong adverse current, at the same time; or have coasted the eastern side of the continent, with the additional obstacle of an *adverse monsoon*.

At what season they arrived at the equator, it is difficult to guess, as it must have depended chiefly on the delays consequent on the state of the ships, and the facility of procuring water; and it may be, provisions also, by the way.* Had they been able to proceed directly onward, they might probably have completed their navigation to the bay of St. Thomas (beyond the equator) by the middle of July, at farthest: that is, allowing two months and a half between their passing *out* of the *monsoon*, and their *entering* the *SE trade*; and nearly three months more, from thence to the bay beforementioned.† But the probabilities are, that they arrived there very much later; and had they arrived ever so early, the navigation to the westward, along the coasts of Guinea and Serra Leona, could not well be begun, till late in October. For in this quarter, probably owing to the position of the land (which, as in India, is confined to *one* hemisphere only), much the same changes, and those changes, nearly at the same periods, take place, as within the limits of the monsoons: a SW wind and rainy weather, being succeeded by a NE wind and dry weather, sometime in the month of Octo-

* More remarks on the subject of provisions, occur in the sequel.

† Equal to about 35 degrees, in distance, including the windings of the coast.

ber. The currents *near* the *shore*, and in the *ocean*, run in opposite directions: along the former, they appear to run to the east, during the whole year; in the latter, to the west: and as the course of our navigators must have been confined very near to the shore, the current would of course be adverse to them at all times; and in the SW monsoon, the wind also; and probably with an acceleration of current.

It appears then, that had they arrived at the equator in July, they could not have made their way, westward, till October, at least; and on the other hand, it is more than probable, that, after a navigation of such length, great repairs must have been necessary to the ships, besides rest and refreshment to the crews: for a coasting voyage, even in the improved state of modern navigation, is infinitely more fatiguing than the longest voyage in the open sea.* Wherefore, the interval of $3\frac{1}{2}$ months between the *earliest possible time* of arrival at the bay of St. Thomas, and that of the commencement of the season for sailing westward, appears even too short for the above purposes. It seems therefore, that the beginning of November was the *earliest probable time* of their departure, westward, along the coast of Guinea. Arguing therefore on this ground, we shall have disposed of one whole twelvemonth, to this period, since the ships entered the Indian ocean at Cape Guardafui: to which is to be added, the time consumed in the navigation down the Arabian gulf, &c. to that point. Herodotus reckons the gulf itself, 40 days of navigation; wherefore we may take the whole, to Cape Guardafui, at full two months.† But then it is to be considered, that a ship which

* See the history of the coasting navigation of Capt. Cook, in the Endeavour, along the eastern coast of New Holland, in Hawkesworth's Voyage, Vol. iii.

† The whole is about 30 degrees; equal to 78 days, at 23 miles per day. Perhaps this rate is too low; as that arising on the 40 days of Herodotus, is too high, for so long an interval; it being 32 miles per day. It is probable that he stated what *might* be done, rather than what *was usually* done. Pliny's 30 days, between Berenice and the ocean, give a rate of 30 miles. It would appear that the rate of Nearchus

would require 40 days to sail the length of the Red sea, must leave the head of it, earlier than the latter end of August, or beginning of September (which the anticipation of two months from Guardafui, would bring the point of departure to), or the season would not admit of her getting into the ocean. Therefore we should rather date the commencement of the expedition, at the end of July, or beginning of August, in the year preceding that of the arrival of the fleet in the bay of St. Thomas: so that fifteen months would have elapsed since they left their original place of outset.

We wish the reader, however, to understand, that our object is rather to shew the possibility of executing the plan of this ancient expedition, by pointing out the steps, by which it might have been accomplished, and by which so long an interval might have been consumed, than to affect to describe the exact progress of it, which it is impossible for any one to know, at this time. We have therefore mentioned a determinate time, more for the sake of prosecuting the calculation than otherwise; but it is highly probable that the fleet of discovery was directed to sail to the point, proper for taking advantage of the earliest part of the north-east monsoon, at a period *so early*, as to preclude all danger of losing that advantage, by *accidental delays*. The probabilities therefore are, that they departed from the head of the Arabian gulf even earlier than we have stated: and that they staid some time at the outlet of the gulf, waiting for the change. Such a delay would necessarily reduce the long interval allowed for the navigation.

Before we proceed with the remaining particulars of the route, we shall say a word concerning the subject of *provisions*; by much the most difficult point to comprehend.

in the Persian gulf, approaches very nearly to this calculation of Pliny, in the Red sea.

The winds in the Arabian gulf are favourable to the navigation *downwards*, during the *greatest* part of the year: and in this portion of it, the season in which we have supposed the *Egyptian* fleet to navigate it, is included.

During the early part of the voyage, we may suppose a constant and regular supply. A king of Egypt who possessed the power, and spirit of enterprize attributed to Necho, could surely command, either by means of influence or negociation, a supply of provisions and necessaries for his fleets through the Red sea. With equal probability, we may conclude that the habits of intercourse with the people along the eastern coast of Africa, would, by means of the accustomed medium of commerce, procure them the necessary supplies; so that the fleet might be nearly as well victualled when it arrived at Mozambique, or Sofala, as when it left the head of the Red sea. Much perhaps, in this way, is not to be reckoned on, between *Sofala* and *Benguela*, or *Angola*, where they might arrive in 4, or $4\frac{1}{2}$ months afterwards; and where, it is probable, they made their *first long halt*, after leaving the Arabian gulf; this being a fruitful and productive country, and situated in the heart of the southerly trade wind.* It appears that along the rest of the western coast, as well as that of Guinea, &c. and even to the rivers Gambia and Senegal, there is at present, and no doubt, was at that time, a considerable degree of population; and plenty of provisions, in their seasons.† We return to the voyage.

* That is, SE in the open sea; *south* or SSW near the shore.

† Here it is proper to observe that Captain Thompson and Sir Home Popham, found no fresh water in rivers or ponds, between the parallels of 16° and 31° S: that is, in an extent of 900 miles, or more. But it is probable that the ancient navigators, who were accustomed to renew their stock of water, continually, were possessed of more knowledge in this way, than our modern navigators; who fill their casks so seldom. They probably dug *wells* in the *sea beach*, as Nearchus did, and as is now done on the desert coast of Persia, and other places.

Here we shall mention that the above named officers, whilst exploring the western coast of Africa in 1786, saw a marble cross on a rock near *Angra Pequina*, in lat. 26° 37′ S. The cross had on it the arms of Portugal, but the inscription was not legible. It appears to be the southernmost of the two crosses erected by *B. Diaz* in 1486, the year in which he discovered the Cape of Good Hope. *He* called the place *Santa Cruz*.—The marble had been taken from the adjacent rocks.

We learn from Barros, that Diaz sailed during this voyage 140 leagues to the

Let the next interval be supposed to have been between the *bight* or bay of St. Thomas, and the river of Senegal: a distance, along shore, of about 39 degrees. This perhaps might have been accomplished, at a proper season, in about four months; and probably not in less, because the motion of the sea is generally adverse to the progress westward and northward, along the whole extent of Africa, from St. Thomas to Cape Bojador.

The streams of current in the Atlantic are so extensive and intricate, as to deserve a most minute investigation on the score of navigation: but such an investigation would be out of place, in a work already too much extended, by matter that may perhaps be deemed extraneous. A short view of the currents is however absolutely necessary; in order that the reader may be enabled to form an opinion respecting the just mentioned impediments, to the remaining part of the navigation in the Atlantic.

The currents in question, as well as those every where else, appear to be, in the first instance, the effect of general winds, combined with the positions of the different sea coasts; after which, in some cases, the confluences of different currents, in the ocean, occasion them to take new lines of direction: and in others, by the separation of the stream, the parts of the same original body, flow in lines, very wide of each other. Much knowledge respecting this subject, has been obtained, since the invention of time keepers; but even yet, the subject is new. We shall endeavour to compress our discussion into as short a compass, as is consistent with perspicuity;

eastward of the Cape, where he set up his last cross, on one of the groupe of small islands, in the *Bay de Lagoa;* and which islands, from this circumstance, we may suppose, were named *Santa Cruz*. Perestrello describes these islands; with the additional circumstance of there being *shelter at all times*, within them, in 12 or 13 fathoms, clear sandy ground. He describes the small islands of *Chaons* to be somewhat farther to the east; and these answer to the Doddington rocks, which are, by the map, just 140 leagues to the eastward of the Cape of Good Hope. See a French translation of Perestrello's Directory, in the *Neptune Orientale* of M. d'Apres, 2d edition.

and trust that it will not prove absolutely useless, as it respects modern navigations.*

Those navigators who have attended strictly to their reckonings, and have also had opportunities of comparing them with cœlestial observations and *time-keepers*, find that there is a constant motion of the sea to the *southward*, along the western coasts of Europe and Africa, from the parallel of Ireland, at least, to the borders of the *south-east* trade wind; which, in the Atlantic, is generally found to the northward of the equator: and, on the other hand, a motion of the sea to the north, from the southern extremity of Africa, to the equator, or rather beyond it. It will be understood that we here mean, the *general* direction of the great body of each of these streams; and that we except those particular *veins* of them which are influenced or produced by inlets or projections of the coast, or other local circumstances. Such is the counter current in the Bay of Biscay; the indraught of the Strait of Gibraltar; and the *obliquities* and *eddies* produced by Cape Blanco, Cape Verd, and Cape Palmas. The same is to be said of the tides. We shall begin with the current on the north of the equator.

This motion of the sea is felt in the line between the west side of Ireland, Madeira, the Canary, and Cape Verd islands; but to what distance into the ocean, westward, we know not. Between Ireland and the Canaries, it inclines but little to the west of south: between that, and latitude 12°, in the meridian of St. Jago (Cape Verd Islands), it bends more to the west; owing probably to the projection of the intermediate coast; but from the latter point to the border of the SE trade, it turns considerably to the eastward of south; conforming again, in some degree, to the shape of the continent, although projected to a greater distance from it, than before, by the prominent form of Cape Verd. The sea within, as far to the south as

* There will be found in the Map No. X, at page 672, drawn for the purpose of explaining the present subject, the direction of the currents, in the part of the Atlantic under discussion.

Cape *Monte*, is occupied by uncertain and perplexing currents, influenced also by the *periodical* winds: for, the seasons along the coast of Guinea, and Serra Leona, (as we have said) very much resemble the *monsoons* of India; perhaps from the same cause; the land being chiefly on one side of the equator, alone. So that in effect, Cape Verd, which is the western extremity of the great *belt* of *high land*, that runs through North Africa, is also the boundary between the fixed and the periodical winds on the coast.

This is the great outline of the stream of current from the northward; which, having reached the parallel of two or three degrees north, about the meridian of Cape Verd (that is, the middle of the stream) it there meets the great southern stream, in its escape from the gulf of Ethiopia.

This stream, which was originally impelled by the southerly trade, along the coast of South Africa, (in like manner as the other stream by the NE trade) is increased by the continuation of the current round the Cape of Good Hope, from the Indian sea; and also in its progress northward, by the strong southerly winds that force the water into the Ethiopian gulf. This accumulation of water escapes westward, in a direction nearly parallel to the coast of Guinea; but not so near it, as to prevent a narrow vein of easterly current, from passing *within* it; although it approach in great strength within 35 or 40 leagues of Cape Palmas, on the SW. This vein of *easterly* current is a part of *that* which came originally from the north, and which falls in again with the coast, at Cape Monte, near Sherbro'; and thenceforward conforms generally to the line of the coast, till it has advanced beyond the equator; when meeting the southern stream, it is of course lost in it. It is obvious, that the vein of current in question, is the one which obstructed our navigators, in their progress westward: it is said to run constantly, during the whole year; and it was in the month of February, that the observations on which we principally depend, were made.

It is of much more importance to modern navigators, than to the point of our subject, that the result of the meeting of the two streams from the north and south, near the equator, should be given. What we shall detail respecting it, is collected from the admirable journal of my friend Mr. Dalrymple, kept on board the Grenville East Indiaman, in 1775; and from the journal of Capt. Cooke; which latter, although highly valuable, could not be published throughout, in so detailed a form as the other.

The junction of these almost opposite streams, produces a new direction of the confluent waters; but, as the stream from the east, is, out of all proportion, stronger than the other, the new line of direction instead of being a mean between the two, which may be about S b. W or SSW, becomes WSW or SW b. W, only: on which points, or between them, this great body of water crosses the equator, in its passage towards the approximating point of South America, nearly in the meridian of St. Jago: that is, about midway between the two continents. As it approaches America, it bends more to the west, and by degrees to the north of west, as it mixes with the northerly current that is formed by the south-east trade wind, which blows obliquely against the coast of Brasil. This northerly current appears to be nearly equal in strength to the other: and having passed Cape Roque, the new confluent stream takes its course westward, along the coasts of Brasil and Guiana; and being continually augmented by the operation of the NE trade, aided by the positions of the coasts and islands, it finally produces that wonderful stream, called the GULF STREAM; concerning which it will be unnecessary to speak in this place.

It is impossible to determine the breadth of the great *equatorial* stream: but we guess it to be no less than five or six degrees, where it crosses the *line;* although it is probably less, where it first approaches the coast of Africa; and where it also acquires (as it would appear) its greatest degree of velocity. In its track through the

Ethiopic gulf, where Capt. Price crossed it, in his way from Cape Lopez to St. Helena, it appears to be eight to ten degrees broad, from NE to SW.

The velocities of these currents differ very widely, in different places: but the stream from the south is almost every where the strongest. Where Capt. Price crossed it, the greatest velocity was 22 miles in 24 hours, to the north-westward; and the strongest part, was nearest the African shore, the weakest, towards St. Helena. Nearly opposite Cape Monte, in 2° to 3° north latitude, the rate was about 40: thence to the meridian of the Bissago islands, and at 1° north of the line, it increased to the surprising rate of 76 and 77, during two days, but afterwards diminished to 62: and thence to 19° or 20° west, in 1° S latitude, to 35 and 30. It seems to hold nearly the same rate till within 120 or 130 leagues of Cape Roque, when it abates in point of strength as it declines to the west, until it is again quickened by the northerly current of Brasil, and the NE trade.

It would appear that this stream of equatorial current does not extend beyond two or three degrees north of the line; or more than three or four south of it, in the part where it crosses.

From what has appeared, it seems certain that navigators cannot cross the equator without crossing this strong and wide stream of current, also: and that they must lay their account with being carried several degrees to the westward; unless they kept close to the coast of Guinea, which is likely to prove much more inconvenient, from other causes.

It has also appeared, that the current runs strongest between 10 and 18 degrees west longitude: there also, it runs rather to the *north*, than to the *south* of west; to which may be added, that the SE trade wind is more southerly *there*, than farther west: so that every circumstance is *against* this track. On the other hand, within 5° of longitude of the coast of America, the current begins to turn to the

west and north of west. But between 18 and 30° of longitude, the current is the most moderate, and also sets to the southward of west: and the winds, the farther we go to the west, blow more from the east: that is, are more favourable to a southerly course. Within this space, therefore, is the best track for crossing the equator, and its current; and rather towards the eastern, than the western side of this space: perhaps the meridian of St. Jago, $23^{\circ}\frac{1}{2}$, may be the best of any.

The velocity, and other circumstances of the stream from the northern hemisphere, are next to be spoken of. From about Cape Cantin, northward, the indraught of the strait of Gibraltar, occasions a motion of the sea, that way; but on the opposite side of this cape, the current runs to the southward; and increases in velocity, as it approaches Cape Bojador. However, the general current from the north, is much weaker than that from the south; and therefore the passage round Africa, from the Red sea to the Mediterranean, appears at every step, as we advance in the inquiry, to have been an easier task than a different order of proceeding.

In the open sea, between the island of Madeira and the south-east trade, the velocity does not appear to exceed 10 to 14 miles per day; but in approaching the land of Cape Blanco, it is found to be in some places, 24. Along the coast of Guinea, it varied from 30 to 10; or 17 at a medium: and on that of Serra Leona (or Western Guinea), it was about 12 southward, during the northerly monsoon: eight or nine northward, during the opposite one; reckoned at a medium of the northern and southern *sets*, during the number of days that the ships were exposed to it. But it is proper to observe, that no degree of current was observable between the parallel of 10°, and that of the mouth of the Gambia, in either season; which still water appears to be owing to the form of the land of Cape Verd, which throws the current so wide into the ocean, as to prevent its return in any shape, so as to disturb the quiet of the sea, to the dis-

tance of several degrees beyond it. And it may be remarked, that within this very space, the extensive cluster of islands and shallows, named *Bissagoes*, and also those of St. Anne, are found.*

Cape Blanco occasions a similar degree of quiet, in the bay of Arguin, which lies to the SE of it. There also, islands and shallows are accumulated, to a great extent: and the current does not close with the shore, for 50 or 60 leagues; but it evidently comes in to the north of the river Senegal; since the singular deviation in its course, near the sea, is the effect of a southerly current, which has hurried its depositions lower and lower down.

The singular form of Cape Verd, is no doubt owing to the *general* current on the north, and the *counter* current on the south, which have corroded the land on both sides, until nothing remains, save the sharp termination of the base of the great *mountainous belt*, of North Africa. Concerning the effect of the obliquity of the current, occasioned by it, we have just spoken: but it may also be proper to mention, that, as the conformation of the land, affects the water below, so it does the atmosphere above: for, the trade winds during the winter of the northern hemisphere, are inflected by it, from NE to NW.

These are the general outlines of the streams of current, in the south and east parts of the Atlantic; and which, to explain in a detailed manner, would require a volume. It is highly probable that the seasons may occasion a very considerable degree of variation, in the *length*, and perhaps also, in the *breadth* of the three principal streams; that is, the northern and southern; and the equatorial current, formed by the confluence of the two first: but

* Although the motion of the sea, be, on the whole, more to the north, in one season, and to the south in the other; yet so near the shore as a coasting vessel would navigate, the tide has a considerable influence. In the offing, some of the old navigators have remarked, that the currents are very uncertain and distracting. Possibly a part of this seeming uncertainty, arose from bad reckonings; for in the modern reckonings, checked by time-keepers, and good observations of latitude, the currents appear pretty regular, here.

there is no reason to suppose that any alteration takes place in their line of course. As for the particular *veins* of current that are derived from the main streams, and which conform to the indentings of the coast, there is no question but that great changes take place, as well in their courses, as in their velocities, in such places as are subject to the influence of periodical winds, and of tides. We trust that the length of this discussion will be pardoned, on the score of its applying as much to the business of modern navigations, as to the elucidation of ancient ones.

From the result of this inquiry, it appears, that our *circumnavigators*, who could have navigated the coast from the bay of St. Thomas to Senegal, only in the seasons of the NE winds, or of the sea and land breezes that prevail in the winter of the northern hemisphere, must have had, generally, an adverse current as far as the *Bissagoes*; and again, every where to the north of Cape Verd, (the bay of Arguin excepted) as far as Cape Cantin. Moreover, that from the Senegal river, to the end of the NE trade, the wind, as well as the current, was against them; so that the latter part of the passage through the ocean, must have been tedious, indeed. We return to the consideration of the detail of the voyage.

The beginning of November has been fixed as the earliest time of moving westward; and the distance, following the windings of the coast, has been taken at 39 degrees (of a great circle). It has been stated in page 704, that they were opposed by currents of different degrees of strength, and also that there is a space (about five degrees) on the south of Cape Verd, where the sea is still. Therefore the impediment, calculated at a medium throughout, may be taken at 13 miles per day.

It has also appeared, that 35 miles was the medium rate of sailing of the ancient ships (see page 681); from which, 13 being deducted, leaves 22 for the net progress. But even from this, there are to be deducted all kinds of delays, whether casual, or growing out of the ordinary wants of the crews; and also accidents: so that, it

is probable, that no more than 18 can be allowed for the regular and constant progress: and, it may be remarked, that Nearchus advanced at no greater rate than $22\frac{1}{2}$ per day through the ocean; although no current is supposed; and very often 17 was the result of a hard day's work.*

The 39 degrees, at 18 per day, require 130 days, or upwards of four calendar months: so that they could not arrive at the river of Senegal, before the beginning, or towards the middle, of March.

Here we may conceive the navigators to have been again within the sphere of their knowledge; on a supposition that this part of the coast had been already explored, in a general way, either by the Egyptians or Phœnicians: and that they would be apprized, in consequence, of their relative position to the pillars of Hercules, and to their native country.

According to the foregoing calculation, they had been about 19 months, or more, from the head of the Red sea, when they arrived in the Senegal river; and might yet have a voyage of five months to perform, in order to complete their circumnavigation. For, although the distance from the Senegal to the mouth of the Nile, along the coast, in the usual way, does not exceed 57 degrees, yet they had to contend (as we have shewn) with an adverse trade wind; as well as a current, propagated by it, during the first part of their voyage from Senegal homewards; and which, from these circumstances, may perhaps have been the most arduous part of the whole.† And it may also be supposed, that, waiting the Sep-

* It is proper to remark that the rate of Nearchus is founded on the number of *sailing days*: had it been on the gross number, it would have been still lower.

† The existence of this current, which is allowed on all hands, is proved by the error of Hanno, who calculated that *Cerné*, (Arguin) was just as far to the south of *the Straits*, as *Carthage* was to the east of it. The difference, which is very considerable, is occasioned by the current; of which Hanno appears to have been ignorant: he, calculating merely by the ship's reckoning. More will be said concerning it, in the next Section.

tember harvest, at the Senegal river, they could not profit so much from the land and sea breezes, as at an earlier period.

The space occupied by the still water in the bay of Arguin, &c. being deducted, 10 or 11 degrees remain, of a navigation, impeded by an adverse current; and where the wind, although subject to *inflexions*, from the alternate influence of the land and sea, is yet unfavourable. Perhaps, less than 40 days cannot be allowed for clearing the limits of the NE trade wind; or about 15 miles per day. But beyond the trade, the *prevalent* winds would be fair, the whole way to the Nile: a distance calculated to be about equal to 80 sailing days, at the mean rate of 35. However, allowing for the usual delays and impediments, it may be taken at 110; and then we have 150 days, or about five months from the Senegal, to the Nile.

Here then, the aggregate of the time consumed during the voyage to the Senegal, together with the five months to the Nile, is just equal to *two years*: but we are told by the Historian, that "they consumed two years *before* they *set out* from their place of harvest in Lybia, to return to Egypt; where they [of course] arrived in the third year." So that on their arrival at Senegal, there would be wanting of the two years, an interval of about five months, or less, if we suppose *this* to be the place at which they waited for a harvest, either of their own raising, or (which is more likely), the ordinary harvest of the people of the country.*

It may be contended, that there was no more reason to wait a harvest *here*, than at any other point of their voyage: but it may be said, that having now ascertained the probable length of the remaining part of their voyage, they might resolve to victual themselves

* We would be understood to mean in *that* QUARTER *only*, and not in any particular spot. The place may have been either the *Gambia* or *Senegal* river, or even some place between the two: but such rivers were likely to attract the attention of the voyagers; and moreover, they would doubtless wish to return within the limits of their knowledge, before they made *another* considerable stay.

at once, for that whole interval; and that, without the aid of the expected harvest, the people of the country might not have had a stock sufficient for themselves and for the strangers also. And in the mean time, the ships might have been repaired, and every thing deficient replaced. Such repairs are called for, in all ships, after their being a long time at sea: (and even Nearchus was compelled to repair his ships at the *Sittacus* river, although he was then advanced, within ten days navigation of his destined port.) We do not in this place, advert to such repairs as may be called for, through accidents; the time required for *those*, being allowed for, in the ordinary calculation of *sailing days*.

We confess that no situation appears more probable than *this*, to wait the harvest described in the history: for, the period of TWO YEARS (the interval mentioned in the history, which, as a text, must be our professed guide), would, apparently, expire, in this part of Africa, provided they made any great stay. And although we have calculated the dates, on the principle of their arriving at, and proceeding along the coast of Guinea, at the beginning (nearly) of the NE wind, yet they might, as we have hinted before, have been delayed longer on the way, and consequently have arrived later. They might also have been longer on their voyage, down the Arabian gulf, than we have calculated, and might have sailed earlier than *necessity* required, in order to secure the full benefit of the NE monsoon in the Indian sea. In consequence, the time of waiting at the place of harvest, might have been not only short of five or six months, but may have been three or four, only.

The harvests in this quarter, are said to be in *September;* and the seed time in June, or the beginning of July. Of course, our voyagers had a long time to wait: and it may appear to those, who form their opinions of ancient navigations, by what they see practised in their own times, to be highly improbable that such arrangements should have taken place. But, the act of shortening by nearly *one third*, the time employed in passages to and from India, within these

few years, at a time when the art of navigation was supposed to be in a very highly improved state, may prepare us for believing that much greater changes and improvements, had taken place previous to that period.

If we suppose that they completed their store of provisions, and were ready to sail, by the end of September, two years and two months would have been consumed, since their departure from Egypt; and no one will suppose that the Historian meant to be critically exact, when he mentioned the term of two years. But, in fact, the truth of the *whole* story does not rest on the consistency of this *particular*, any more than the truth of Hannibal's expedition into Italy, on the story of the effect of vinegar, on the Alpine rocks. No one believes the story of the vinegar; and no one disbelieves the history of the expedition.*

Thus, it appears, that the principal difficulty to be surmounted, in ancient voyages, arose from the impracticability of storing the ships with provisions, adequate to the vast length of time required for their navigations; where the rate of sailing was so remarkably slow. They were ill adapted to distant voyages; (and which, indeed, it appears, they seldom undertook): but did very well in situations, where they could land, and command provisions, almost at pleasure; or at any rate, by compulsion, when they sailed in fleets. But, on the other hand, they were better adapted to those coasting voyages, which constituted almost the whole of their navigations. The flatness of their bottoms, required much less depth of water, than modern vessels of the like tonnage; whence arose an incredible advantage over ours, in finding shelter more frequently; and indeed, almost every where, except on a steep, or rocky shore; since in

* Perhaps it may not be known to many, that Sherefeddin, the historian of Tamerlane, says, that vinegar was used in the siege of Damascus (in like manner as by Hannibal): that is, they heated the stones of the wall, and then threw vinegar on them; after which, says he, they easily broke them to pieces with hammers. Lib. v. c. 27.

default of shelter, afloat, they drew their *large ships*, up on the beach, as our fishermen do their large boats. And we may certainly conclude that vessels of a construction and size the best adapted to the service of discovery and long voyages, were chosen on occasions, like the present.

In effect then, even the *nature* of *their* shelter, oftentimes differed essentially from ours. Moreover, by keeping close to the shore, they ran less hazard of missing such ports as suited them; but which would escape the observation of modern navigators; who, unable to profit of such advantages, endeavour to balance the account, by avoiding the dangers of *lee shores*, and *shallow waters*. We conceive that people sometimes entertain wrong ideas of the circumstances of ancient navigations; reckoning amongst the greatest difficulties, those which were the easiest surmounted. The voyage of Nearchus, the only ancient one given in detail, convinces us, that the perils of coasting navigations were not so great amongst the ancients, as amongst the moderns. Their ships, from the nature of their construction, not only required less depth of water, but they got off easier, and suffered less, when aground: and when at anchor, they exposed a less surface to the wind, from the lowness of their masts; and from their lightness, rode with less strain. It will here be necessary to enter into some details, relative to the management of ancient ships, when near to, or at the shore; in order to shew that even the ships of war, were drawn up on the beach: and as it may reasonably be supposed, that a smaller class were employed in voyages of discovery, this circumstance would render the operation yet easier.

Historians, as well as poets, are in the habit of mentioning the practice of drawing up the ships on the beach; and oftentimes, of inclosing them within a rampart, on the land side. The fleet of Nearchus was so drawn up, and fortified, twice during their voyage; and at other times drawn on shore to be repaired.

On many occasions, where the landing of the crews of other

fleets, in a body, is mentioned, we cannot readily distinguish whether the ships' heads were merely *put to the shore*, or whether the ships were drawn up on the beach.

The grand fleet of Xerxes, consisting of 1200 *triremes*, and a vast number of smaller vessels, when at *Doriscus*, "were brought to the shore, and the crews enjoyed an interval of repose, whilst Xerxes was reviewing the army, &c." Polym. 59: after which, (100) "the ships were *pushed* from the land, and moored at 400 feet distant, with their *prows* towards the shore, in an uniform line; whilst Xerxes reviewed them, passing between them and the shore, in a Sidonian vessel."

The crews of the combined fleet of Greece were *on shore* at SALAMIS, when the news of their being surrounded by the enemy, arrived. Urania, 83.

But the most pointed notice concerning their mode of procedure, on occasions that required shelter, is that which occurs in the same fleet of Xerxes, previous to the storm on the coast of Magnesia, in which 400 ships were lost. Polym. 188.

"As the shore was of no great extent, the fleet was ranged in eight regular divisions, with their heads to the *main* sea, in which situation, they passed the night." (He had before said, that the foremost rank was drawn *close to* the land, and that the others lay at anchor behind.) On the approach of day, a furious storm arose, attended with a violent gust of wind from the east, which the inhabitants of these parts, call a *Hellespontian* wind. *They who foresaw that the tempest would still increase, and whose situation was favourable, prevented the effects of the storm, by drawing their vessels ashore;* and with them preserved their own persons. Of those whom the hurricane surprized, farther out at sea, some were driven to the *Straits* of *Pelion*, &c."

Here it appears that the want of a sufficient extent of that kind of shore, on which ships might be drawn up, prevented the whole fleet from being placed in a state of security on the sea beach; and

which probably fell to the lot of few besides those in the front line. It appears also that the crews only of such ships as *touched* the shore were permitted to *leave* their ships; and which crews, on the increase of the gale, were in a situation to draw them up, out of the reach of the body of the *surf*. No doubt, on other occasions, it was likewise the practice to draw the ships up, when threatening appearances were perceived.

As this fleet was composed of the prime ships and seamen of the Mediterranean, at that time (the Phœnicians, Ionians, and Egyptians), we may suppose that every precaution was taken, that skill and experience could suggest.

But to be enabled to accomplish the above precautionary step, the vessels must necessarily have been *very flat*, since they are said to have been of such bulk, as to require crews consisting of 200 mariners and 30 soldiers. Such a form, indeed, the shape of the rudders of ancient ships, sufficiently testifies: a kind of *oar*, by which alone, projecting far beyond the eddy water formed by the passage of so *full built* a vessel, they could be steered with effect. We may suppose, on the other hand, a *prow*, projecting far beyond the *stem*; which facilitated the landing of the crew, or boarding an enemy.*

Nearchus had *long* ships, (or ships of war purposely built), in his fleet; and yet these ships came down the Hydaspes and Indus; a certain proof of the flatness even of the ships of war.

The Chinese *junks* whose structure we have examined, may be somewhat like the ancient ships; and may not have varied much amongst that wonderful nation; who, like the Hindoos, so early

* Whether such large ships as those described by Polybius, lib. i. c. 2, in the contests between the Romans and Carthaginians, in the second Punic war, and which carried 420 men, were drawn ashore like the others, we know not; nor is it, indeed, to our present purpose.

attained the necessary point of improvement, but have never reached the summit of it.

It appears improbable that voyages of circumnavigation were repeated; as well from the great delays attending them, as that the articles of merchandize, the most in request, (particularly gold and ivory) were to be had much nearer home. Hence, it would appear, the discovery itself came to be forgotten, before the time of Ptolemy; even in Egypt, the country from whence it was undertaken; and in Alexandria, the greatest commercial mart in the world; where one might have expected an event of a nature so interesting to navigation, would have been carefully treasured up.*

To those who may infer from the silence of Ptolemy, that the history of the expedition is to be regarded as an imposition, we can say nothing stronger in answer, than that the knowledge of the discovery of the eastern side of *New Holland*, at a period, perhaps 150 years before the voyage of Captain Cook, was lost in Europe, until the chart of the discovery was noticed in the British Museum, a few years ago; and posterior to the death of that GREAT NAVIGATOR. Now, if this fact could be forgotten *throughout Europe*, in a century and half, and after the invention of printing, we cannot wonder that the other should meet a similar fate; especially after such circumnavigations had been long out of use; and at a time when registers of facts were with more difficulty preserved!

Herodotus gives, on the authority of the Carthaginians, an account of voyages made to the western coast of Africa, which contains some curious particulars. These voyages may be considered as the *suite* of those of Necho and Hanno. One of them is the

* Polybius, who lived 250 years before Ptolemy, either did not know it, or did not believe it. Lib. iii. c. 4.

The foundation of Alexandria was about 270 years after the circumnavigation, in question.

voyage of *Sataspes* (beforementioned) in order to *circumnavigate* Africa by the *west;* but which failed. Melp. 43. The others appear to be a part of the *regular commercial intercourse*, with the people in the quarter towards the Senegal and Gambia rivers. The former seems to confirm his account of the expedition of Necho, and is as follows:

During the reign of Xerxes, Sataspes, of royal descent in Persia, was condemned to death, for an act of violence; but his punishment being commuted into the task of sailing round the continent of Africa, he was directed to set out from Egypt* by the *Mediterranean*, and to return to it, by the *Arabian gulf.* As there is no intimation given that the crew of his vessel (or vessels) were considered as criminals, we must suppose that the punishment of the *principal* was to arise from the disgrace of banishment† for two or three years; together with the hardships and fatigue attendant on so long continued a service, to a man of high rank, and perhaps accustomed to habits of luxury and ease. It may be conceived, that some measure of utility was also intended, though not expressed by the *Historian;* and that the expence of an establishment was not incurred for the sole purpose of punishing an individual. It is possible, indeed, that a part of the punishment might have been a fine, equal to the cost of the expedition; although the Historian does not record it. ‡

The narrative of that voyage sets forth, "that passing the Columns of Hercules, he doubled the promontory of *Syloes* (or *Soloeis*)

* Egypt then composed a part of the Persian empire.

† It was the practice to *banish* persons to the islands of the Persian gulf: but the same persons were, notwithstanding, called on to accompany Xerxes to the Grecian war. Thalia, 93; Polym. 80.

‡ It seems as if this story had been well known in Greece; for Herodotus alludes, it seems, to a well-known anecdote concerning one of Sataspes' servants. Herodotus perhaps had seen some of the parties concerned; as the dates will allow of it.

(probably Cape *Cantin**) and steered a southerly course. That, continuing his voyage for several months, in which he passed over an immense tract of sea, and seeing no probable termination of his labours, he returned back to Egypt, and thence to the court of Xerxes, giving as an excuse for the non-performance of his instructions, that he could not advance any farther, (or that his vessel was *unable* to proceed). In consequence of this, his former sentence was executed on him." †

Throughout this short narrative, nothing appears that would lead us to suppose otherwise, than that the voyage was deemed *practicable*, although *difficult* and *tedious*. For Sataspes did not deny the physical possibility of executing the measure, but only the possibility of performing it *with his vessels*. And on the other hand, Xerxes gave no credit to his assertions; that is, we may suppose, he *knew* that the measure had been accomplished by others, and thought, of course, that it might have been performed again.

It is very probable that Sataspes was discouraged from prosecuting his voyage by the adverse winds and currents, that prevail on the coast of Serra Leona, &c. from April to October; see page 701; and which would be felt by those who left Egypt or Carthage in the *spring*; a more likely season to undertake an expedition of this sort, than in *winter*, when the order of things is different. We can assign no better reason for the failure, in this stage of the undertaking: and it is the more likely, because the duration of Sataspes' voyage, southward from Soloeis, being "several months," will allow him to have reached the coast in question.

The other account is, that the Carthaginians traded with a people, situated *beyond* the *Columns*; but with whom they had no *personal* communication. The mode of intercourse was effected by one party leaving their merchandize to be exchanged on the sea beach; and

* See above, page 421, *et seq.*

† This reminds us of the fate of Sir Walter Raleigh.

the other, the *gold* in return: and these exchanges (says our Author) were conducted with good faith on both sides. Melp. 196. The seat of this commerce may be guessed to have been near the mouths of the abovementioned large rivers; in the first place, because gold is more commonly found to the *southward* of the Great Desert; and secondly, because it is said by Dr. Shaw, that a like mode of trading exists at present, between "the *western Moors*, and some barbarous nations, bordering on the river Niger;—and without the least instance of dishonesty or perfidiousness on either side."*

We conclude that the date of this traffic was posterior to the establishment of the colonies along that coast, by Hanno: for in that voyage, the Senegal river appears as a *new* discovery, and the mouth of the Gambia was reckoned only a *great opening* of the sea. And by other notices it appears probable that the river *Lixus* (taken for the river St. *Cyprian*, at about 90 G. miles to the northward of C. Blanco), or the possessions of the tribe of *Lixitæ* on its banks, was the boundary of the Carthaginian knowledge, previous to Hanno's expedition.

As the journal of Hanno must be regarded, not only as a curious document respecting the Carthaginian settlements on the western coast of Africa, but also as an immediate consequence of the Egyptian discoveries; and moreover, as it appears to have been misunderstood by some, and its truth questioned by others, it is intended, in the succeeding Section, to enter into an examination of certain particulars of it, with a view to shew its consistency.

Thus, we conceive, the assertion of Herodotus concerning the circumnavigation of Africa, will no longer appear in the light of a mere tale; since there existed no physical impediment to its accomplishment: and moreover, as it has been proved that it was undertaken in a manner the most favourable to its execution. Perhaps, the brevity of the narration, has been the occasion of its

* Shaw's Travels, page 302. Dr. Wadstrom says the same of certain people, on the windward coast of Guinea: and Cadamosta, of the people of *Melli*.

being rejected, by many; at the same time that inscriptions, or legends of medals, though infinitely more brief, are implicitly received as proofs of the facts recorded. Brief however, as the narration may be, it contains, as M. Larcher justly remarks, a circumstance which is in evidence to the truth of the voyage; namely, that of the sun being on their *right hand*, in sailing round Africa: and which, says he, could never have been imagined, in an age when astronomy was yet in its infancy.

MAP to explain the VOYAGE of HANNO; and the Particulars of the Geography of the Western Coast of AFRICA: together with Ptolemy's Ideas of the latter.

The Arrows shew the direction of the Current.

100 50 0 100 200 300
Geographic Miles

100 50 0 100 200 300 100
British Miles

SPAIN
Mediterranean Sea
Sicily
Malta
Sacrum Pr.
Sagres
Palos
Carthago Nova
Tartessus
Gades
Calpe
Strait of Hercules
Tingis
Lixus R.
Cartenna
Algiers
Bujea
Hippo
CARTHAGE
NUMIDIA
Rusadir Pr.
Thymiaterium
Marmora
Sala
I. Fedala
Salee
Subur R.
Fez
Maragan
Atlas Minor (Cape Blanco)
Anfa
Almanzor
Macanite
Duus R.
MAURETANIA
Lake Tritonis
Lesser Syrtis
Tacape
Tripoly
Porto Sancto
Madeira
Pæa I. (of Ptolemy)
Pr. of Solocis (Cape Cantin)
Rusibis
Safty
GETULIA
Diur R.
Mogador
Casa R.
(Taletane) Solis Mons
(C. de Geer) Hercules Pr.
Bocanum
Santa Cruz
(Tamara) Tamusida
Salvages
Canaries, or Fortunate Islands
Junonia
Capraria
Nivaria
Pluvialia
Ferro
Canaria
Purpuraria
Meca
Usadium
Suriga
Aquilon
Cape Nun
Una R.
Vala Nun
Monesty
Amisedy
Agna
Acra
Arca
Marpevenus
Sala R.
Atlas Major (C. Bajador)
Ruinos
ATLANTIC OCEAN
Cavallos Bay
Subus
R. del Oro
R. St. Cyprian
Cinara
Salathus
Lixitæ
C. Barbas
Greater Lixos (R. of Hanno)
Canaria Extrema
Cape Blanco
Ethiopians of Hanno
Isle of Cerne
R. Chrem
St. John
Soluentia
C. Mirik
Gum
Forests
Portandik
Senegal
Masoe
Daradus R. (Ptolemy)
River of Crocodiles & River Horses (Hanno)
Magnus Portus
Arsinarium Prom.
Cape Verde
Rabiba
Rysadium Pr.
Fatick
Great Opening (Hanno)
Stachir R. (Ptolemy)
Pisania
Medina
Bambotus (Pliny) (Gambia)
(Cape Roxo) W^n Horn of Pliny
Perphosius Prom.
Western Horn (Hanno)
Bissago Bay
Lucæthiopes Ptolemy
Nia R.
Bissagos Islands & Shoals
Gorgades
R. Nun
Rio Grande
ETHIOPIA
Mare Exterius
Meridianus Primus
Ana I.
Betis
Herculeum fretum
Gadira
Calpe M.
Malaca
Carthago Nova
Tingis
Abyla M.
Lixitæ
Mare Interius
Mauritania
Subur R.
Sala
Atlas minor
Cartenna
Julia Cesarea
Pixa
Rusibis
Atlas minor M.
Solis Mons.
Mycocarus
Salde
Collops
Utica
Carthago magna
Tamusiga
Hercules Prom.
Usadium
Baccanum
Suriga
Una R.
Vala
Agna
Sala R.
Africæ Cæsariensis
Atlas Major
Cerne
Atlas Major M.
Subus Pr.
Junonis Ins.
Autolale
Getulia
Bagradas
Thabudis
Salathus
Chusarus R.
Thuilath
Melano-Getuli
Canaria extrema
Ophiodes
Tagana
Bagazi
Nuius R.
Soluentia ext.
Rabii
Mandori
Nigritiæ Palus
Nigira metrop.
Usargala M.
Gira metrop.
Massa R.
Jarzitæ
Magnera
Panagra
Lybia Palus
Fortunatæ
Fluitana
Magnus Portus
Daradus flu.
Insulæ sex
Bibiba
Daradæ Anticoli
Libya
Arsinarium Pr.
Jarzitha
Phaurusii
Maurali
Canaria
Rysadium Pr.
Stachir flu.
Ubrica
Soluentii
Interior
Perphosus
Rysadius Mons
Staehira
Caphas M.
Leucæthiopes
Cathedra Deorum
Nia I.
Hesperi cornu
Massicytes Mts.
Hypodromus Æthiopiæ
Deorum Currus Mons
Exteriorum pelagi intimus secessus

WESTERN COAST of AFRICA, according to Ptolemy. Vide Africa Tab. II & IV.

WESTERN COAST of AFRICA, according to Ptolemy. Vide Africa Tab. II & IV.

Published according to Act of Parliament by James Rennell Dec.r 28th 1799

J. Walker sc.

SECTION XXVI, AND LAST.

AN EXAMINATION OF THE ACCOUNT OF THE VOYAGE OF HANNO, ALONG THE WESTERN COAST OF NORTH AFRICA.

Brevity of the Periplus—Consistency of its Facts, generally, when tried by the Test of Geography, and local Descriptions.—Stories of the Streams *of* Fire *and* savage Women, *accounted for.—Design of the Expedition, to form commercial Settlements.—Interval of Time employed, not correctly given.—The Capes* Blanco *and* Verd; *the Rivers of* Senegal *and* Gambia; *and the Island of* Arguin, *or* Cerné, *recognised in the Journal.—Evidence in favour of the Truth of the Periplus, arising from the Effect of the southerly Current.*—Cerné.—*Progress of the Expedition southward from the Gambia River.—The Bay of* Bissago, *answers to the* first *Port; called the* Western Horn.—*Fires, from burning the Herbage, appear terrific to the Voyagers.—The Mountain named the* Chariot *of the* Gods, *referred to that of* Sagres, *or* Sangaree.—Second *Port, or* Southern Horn, *taken for* Sherbro' *Sound, or Bay.—Termination of the Voyage, at this Place.—Agreement of the Distance sailed, with the Time, according to the ancient Rate of sailing.—Elucidations from Pliny and Ptolemy.—Ideas of D'Anville, Bougainville, and Gosselin, concerning this Subject.*—General Remarks *on the Voyage.—Probably undertaken in consequence of the* Egyptian Discoveries.—*Commercial Jealousy.—The southern Expedition had probably for its Object, the Commerce of the* Gold *and* Ivory *Coasts of* Guinea.—CONCLUSION *of the Work.*

It is a subject of much regret, that this curious remain of antiquity* should be so exceedingly brief; and that it had not come

* The Periplus of Hanno will be found in Hudson's *Geog. Minores*, Vol. i. Mr. Falconer, of C. C. C. Oxford, favoured the public with an English translation of

down to us in its original form; as it is evidently no more than a very brief abstract of a larger work. There appears, however, much consistency in those facts which are susceptible of trial, either by the test of geography, or by comparison with the descriptions of travellers; although they may be blended with stories of *fiery torrents*, and *women covered with hair;* which stories, altogether, do certainly give a cast of fable to it; and, at first sight, seem to rank this part of the narrative, with some of the voyages in the *Arabian Tales.*

Certain persons have therefore endeavoured, and that not without some degree of plausibility, to shew, that the facts which thus cast a shade of fable over the narrative, may be accounted for, without having recourse to fiction: and as it is of importance to an author, that his reader should set out with a good opinion of his veracity, we shall mention these apologies in the outset.

First, of the *streams of fire;* some of which were said to *run into the sea.* This has been conjectured to be nothing more than the burning of the dry *herbage;* a practice which takes place, more or less, in every country, situated in the warm climates; and where vegetation is also rank. Its taking the appearance of a *river of fire,* running into the sea, is accounted for, from the more abundant herbage of the vallies, or ravines; which, as Mr. Bruce observes, are *shaded* by their *depth,* and remain green the longest. Consequently, being the *last* burnt, the fire will, at that period, be confined to the hollow parts of the country, only; and when fired from above, will have the appearance of rivers of fire, running towards the sea. In other places, they saw the whole surface of the country

it, accompanied with the Greek text, and explanations, in 1797. The title of the Periplus is, "An Account of the Voyage of Hanno, Commander of the Carthaginians, round the parts of Lybia beyond the Pillars of Hercules, which he deposited in the Temple of Saturn."

For the hydrography of this voyage the reader is referred to the Map No. XI, opposite to this Section.

on fire; from all which may be inferred that this was the season of burning the herbage. Mr. Park speaks very pointedly to this purpose: and, it may be remarked, that the scene of his observation was nearly in the same parallel with that of Hanno: Mr. Park's being in *Manding*, and Hanno's on the opposite coast.*

The adventure of the *hairy* women, presents much less difficulty than the other; since it is well known, that a species of *ape*, or *baboon*, agreeing in description with those of *Hanno*, is found in the quarter referred to, which must have been near *Serra Leona*. Nor did the interpreters call them *women*, but *gorillæ*: meaning no doubt to describe *apes*; and not *human creatures*, possessing the gift of speech. This part of the narrative, therefore, admits of no difficulty, otherwise than that of wondering how the Carthaginians could be so far mistaken as to denominate them WOMEN.†

The principal object of the expedition, is set forth in the journal, which opens with the following information:

* "The burning of the grass, in Manding (says Mr. Park), exhibits a scene of terrific grandeur. In the middle of the night, I could see the plains and mountains, as far as my eye could reach, variegated with *lines of fire*; and the light reflected on the sky, made the heavens appear in a blaze. In the day-timē, pillars of smoke were seen in every direction; while the birds of prey were observed hovering round the conflagration, and pouncing down upon the snakes, lizards, and other reptiles, which attempted to escape from the flames. This annual burning is soon followed by a fresh and sweet verdure, and the country is thereby rendered more healthful and pleasant." P. 259, 260.

He also remarks, that "in *Ludamar*, and other *Moorish* countries, this practice is not allowed; for it is upon the withered stubble that the Moors feed their cattle, until the return of the rains." Page 259. It may be remarked, that the *first* fires seen by Hanno were at the entrance of the river Gambia; that is, after he had quitted the neighbourhood of the Desert; in other words, the *Moorish* countries. If Mr. Park had written with a design to illustrate the journal of Hanno, he could hardly have done it more effectually.

As this operation takes place after the rainy season; perhaps in November and December, this may be allowed to mark the season of Hanno's visit to the coast of Serra Leona.

† The description of the ape found in Africa, called *Pongo*, by M. de Buffon

"It was decreed by the Carthaginians, that HANNO should undertake a voyage beyond the Pillars of Hercules, and found *Libyphœnician* cities. He sailed accordingly with 60 ships of 50 oars each, and a body of men and women, to the number of 30,000, and provisions and other necessaries."

It is certain, that the numbers appear very great, as well in respect of the extended scale of colonization, as of the number of ships. However, the Roman and Carthaginian ships of war, had crews of 420 men, according to Polybius (lib. i. c. 2.): and the first city was founded at no great distance beyond the Strait of Gibraltar, the rest short of Cape Bojador; so that the passengers did not continue on board, any great proportion of the time employed in the voyage. But had the numbers been represented greater, or the ships fewer in number, still there might have been a corruption of the text. And as numbers are so liable to corruption, it would be unfair to allow such an error to preponderate against a series of probable events.

The date of the expedition has been supposed to be about 570 years before Christ; but of this, more will be said, after the circumstances of the expedition have been fully discussed.

(Vol. xiv.), and that which occurs in Dapper's Travels, p. 249, and in Purchas (Vol. ii. page 982), are sufficient to shew that an animal of the ape species, and which bears a deformed resemblance of the human kind, is found in Western Africa: but a testimony of a yet more satisfactory nature, and more to the point, as it comes from the very quarter, almost the very spot, in which the above adventure of Hanno is placed, is before us. Dr. Afzelius has brought with him from *Serra Leona*, a dead specimen of this ape, which not only approaches nearer to the human form, than any other kind of ape, but whose deportment and habits, whilst living, bespoke a superior degree of intelligence to that of mere brute animals.

In the description given by Purchas, it is said that the Pongoes "are never taken alive, because of their great strength; unless by killing the females, they take the young ones that hang fast upon the mother." It has been observed that those were females which Hanno took; but which "attacked their conductors with their teeth and hands," so that they were, in effect, compelled to kill them. Perhaps these might have been a dam with its female young.

We shall first proceeed to inquire into the interval of time employed, in the act of *sailing*, and the space gone through, as far as they can be collected from the journal; as these facts, combined with the circumstances of description, will enable us to refer the matter to a geographical test.

The aggregate of the time employed, during the voyage, cannot, however, be obtained; for we are left totally in the dark during the early and greater part of the voyage, respecting both the rate of sailing, and the number of days they were in motion. This interval includes the space, generally, between the strait of Gibraltar and the river St. Cyprian (taken for the *greater* Lixus), with the exception of the two first days sail, between the strait and *Thymiaterium*, supposed to be *Marmora*. But from the Lixus, the time seems to be regularly given, to the conclusion of the voyage, southward.

As in the discussion of the position of the promontory of *Soloeis*, it became necessary to enter into the particulars of the early part of this voyage from the strait, southward, to the river Lixus, we shall beg leave to refer the reader to Section XVI, page 415, *et seq.* for our observations on that part.

The particulars of the time from the *greater* Lixus, southward, are as follow:

From the *Lixus*, along the coast of a desert country, *southward* - - - - - - - -	2 days.	
From thence, *eastward*, to the island of Cerné -	1	
	—	3
From Cerné, coasting the shore of the *Ethiopians*, to the neighbourhood of some mountains - -	12	
Sailing *round* the mountains, to a vast opening of the sea, *bordered* by *plains* - - - - - -	2	
	—	14
		17

	Days.
Carried forward -	17
To a large *bay* or *gulf*, called the *Western Horn* -	5
(N. B. Here, although there seems to be an *omission* of time, yet it is probably occasioned by the mode of expression, in the text).	
To the *Chariot of the Gods*, a high *mountain*, which had fire on it - - - - - - - -	4
To a bay called the *Southern Horn* - - -	3
	12
Total	29

In our idea, it is impossible to refer the first 17 days to any part of the coast of Africa, except to that between the river St. *Cyprian*, and the mouth of the *Gambia*. The *two first* days, *southward*, from the *Lixus*, and the *third, eastward*, to the island of *Cerné*, express the sailing round the *land* of Cape *Blanco*;* and from that Cape, *across the bay* to *Arguin;* which they found situated "*in a recess of a bay.*" Next, the 12 days *southward, coasting the shore* of the *Ethiopians*, on the *last* of which days, "they approached some large mountains *covered with trees*, (the wood of which was sweet-scented and variegated)," agrees to the description of the coast, between *Arguin* and Cape *Verd;* for, sailing *round* these *mountains*, in two days, they came to "an immense *opening* of the *sea;* on *each side* of which, towards the continent, was a *plain:*" now this is perfectly descriptive of sailing round the *high land* of Cape Verd, which is covered with trees, of a lively verdure; and of their arrival at the *wide embouchure* of the *Gambia* river, known to *them* only as "a great opening of the sea."

Cape Verd appears to have been re-discovered in modern times,

* The distance is, in fact, about 90 miles between St. Cyprian and C. Blanco; but the current is known to run with great velocity round the projecting shore between C. Barbas and C. Blanco: and, of course, along a *part* of the way from the latter, towards Arguin, also.

by the Portugueze, about the year 1447. Here are the descriptions of it, by *Cadamosta* and *Le Maire*, at a subsequent period.

" It is a high and beautiful cape, which runs a good length into the sea, and has two hills, or small mountains, at the point of it. It is covered with trees, which continue green all the year round." (Cadamosta.)

" This famous promontory is named from the perpetual verdure of the adjacent country, abounding with beautiful lofty trees. It is very distinguishable in coming from the north, which side is somewhat mountainous. The south side, though low, is pleasant, the strand being adorned with long rows of large trees, standing as regularly as if planted by art." (Le Maire.)

Perhaps, the contrast between the low, flat, desert coast of Senegal, and the elevated land of C. Verd, might have led Hanno to describe the land of the cape, more lofty than it really is.

The mouth of the Gambia (or Gambra) is described by Cadamosta to be no less than six or eight miles wide, at the entrance; with *low* shores. It may be added, that in this quarter Hanno *first* saw the fires occasioned by the burning of the herbage; agreeing with Mr. Park's account, as we have remarked, in page 721.*

* The statement of the date of CADAMOSTA's voyage, given by the Author, in the Appendix to Mr. Park's Travels, having been flatly contradicted in the Critical Review for August 1799, the Author finds himself called on to say a word in defence of it, since it was necessary to quote the same author again, in this place.

The Reviewer says, " Major Rennell supposes that the Venetian CADAMOSTA wrote in the 15th century: and indeed he expressly assigns him to the year 1455. If the Major could not have recourse to the *first Edition* of Cadamosta's Voyages, *printed at Venice in* 1507, he might at least have consulted the old Latin translation, in that common book, the *Novus Orbis* of GRYNÆUS. He would there have found, that Cadamosta left Venice in 1504, in the 21st year of his age, and that he sailed to Africa, in March, 1505."

The Reviewer is perfectly right in saying that Grynæus has the date 1505: but the matter is far otherwise, in the *original Edition* of 1507, printed at Venice, and to which he so confidently refers; as also in Ramusio; and we believe every where else, except

Here it is necessary to remark, that this was the *second* time, that our voyagers had sailed to the *southward*, from Cerné: and that the first time, they went no farther, apparently, than the *Senegal* river. Leaving Cerné, the first time, they sailed up the river *Chretes*, by

in *Grynæus*. In those, it is clearly 1455. The original edition is a scarce book, and the Author could find it no where, but in the library of his friend Mr. Dalrymple. Whose copy the Reviewer examined, we are not told: but it would, to be sure, be an odd coincidence, if the same *faulty* copy which misled Grynæus, should also have fallen into the hands of our Reviewer! He, perhaps, will inform the public where it is, that it may not mislead others.

The Reviewer, by the bye, has betrayed no small degree of ignorance of his subject, by allowing *these dates* (if the *supposed* faulty copy really exists) to mislead him so widely: for a *Critic* should have known that the date 1505, could have no reference to the voyages of Cadamosta. The *suite* of voyages of discovery made by order of the Portugueze, along the western coast of Africa, in which those of Cadamosta, in 1455, and 1456, are included, terminated in 1486, by the discovery of the Cape of Good Hope, by B. Diaz: and De Gama sailed round it to India, in 1497. Moreover, Prince Henry, who employed Cadamosta, died in 1463.

It is unpleasant to be thus compelled to solicit the attention of the reader, to personal matters; but in a case where palpable ignorance must be placed to the account, either of the Author, or of the Reviewer (who has gone very far indeed out of the way, in order to pass an unmerited censure), it is proper that the reader should know on whose side the blame lies. The reader may satisfy himself, by a reference to the history of the above voyages; and of the fact of Cadamosta being employed by Prince Henry of Portugal (who, we repeat, died in 1463), at the beginning of the history of the voyage itself, either in Ramusio or Grynæus: the latter of which authors was no doubt well apprized of the true date, notwithstanding the *slip* in his book.

As to the other remarks on his geography of Africa, in the same Review, the Author cannot, with propriety, enter into an examination of them, in this place; otherwise than to say, that they chiefly arise from the Reviewer's pinning his faith on Leo, whose authority we have disregarded, in much of what relates to the interior of Africa; because he seems to have written from hearsay. A man who says that the river of Tombuctoo runs to the *west*, can hardly expect to be believed, at this time concerning what he relates of that quarter of Africa.

The Reviewer "*advises* the Major to *read* books, instead of merely *consulting* them." On this occasion it is almost needless to remark, that it is better even to consult books, than to read them with so little effect, as the *adviser* has done. But we beg pardon of the reader, for intruding so long on his time and patience.

which we understand the river of St. *John*, situated at about 60 miles southward from Arguin, or Cerné. This river led them to a *lake*, which had in it "*three* islands, *larger* than *Cerné*; from which, proceeding a day's sail, they came to the extremity of the lake, that was overhung by large mountains inhabited by *savage men*, clothed in skins of wild beasts, who drove them away by throwing stones, and hindered them from landing." At present, there are four large islands in the space of about 30 miles, surrounded partly by the coast, partly by banks in the sea; and which space may probably be meant for the *lake*; but it is certain that the river of St. John, at this time, falls into that part of the lake, which is the *most distant* from Arguin. The land at the extremity of the lake, may well be understood by *Cape Mirie*; which is about a day's sail (of the ancient standard) from the opposite side of the above described *inclosed space*.

"Sailing thence, they came to another river, which was large and broad, and full of *crocodiles*, and *river horses*; whence returning back, they came again to Cerné." In this river then, we recognise the *Senegal*. At present its *embouchure* is more than 200 miles beyond Cape *Mirie*; but it has been shewn that there is reason to suppose that it once joined the sea, at a place 60′ higher up, towards Mirie. (See page 705).

Had the great river in question been the *Gambia*, we should have heard of *sailing round the mountains (i. e.* Cape Verd) in the *first* voyage. On the contrary, it appears that Cape Verd was a *new* object, in the second voyage.

Besides the agreement of so many particulars, in regular succession, the distances on the intervals of time, will be found to agree likewise. Thus for instance, on the 14 days sailing from Cerné, to the great opening, the first 12, on a southerly course, brought them to the mountains covered with trees: that is, to Cape Verd: and 2 more to the great opening, or mouth of the Gambia river. The space on the map, is 480 G. miles, coastwise; which allows 34 and a fraction per day. It has appeared that 35 was the mean

rate of sailing, on ordinary occasions: *here* their business was *discovery*; and it is said that they coasted the shore very close, and with a view to a communication with the natives; who, however, either kept aloof, or only approached to prevent their landing. This, necessarily delayed them: and we must therefore account for their quick progress, from the southerly current already described to run along the coast, from the parallel of Cape Cantin to Cape Verd; and which balanced the loss by delay.

In effect then, the *suite* of positions may be regarded as fixed, as far as the Gambia: and indeed, it seems to be established by common consent, that Arguin represents Cerné, and the river of Senegal that of the *crocodiles* and river *horses*; but M. Bougainville supposes the high land to be that of Serra Leona. To have reached this point, however, in 13 or 14 days from Cerné, they must have sailed every day, from 60 to 64 miles, which is highly improbable, as their object could only have been pursued with effect in daylight.*

It was necessary, in order to establish clearly the position of Cerné, in this discussion, to extend the chain of distance to the Gambia, in the first instance, in order to shew its relative situation, both ways: and regarding Cerné as the term of the *first division* of the voyage, and where the plan of colonization ended, we shall detain the reader here a moment, whilst we mention some particulars concerning it, and its supposed relative position, to Carthage.

An assertion occurs in the journal, which has hitherto passed unregarded (we believe); for, if taken absolutely, it is not true: and no one has thought of explaining it. It is said, "we judged from our voyage, that this place lay in a direct line with Carthage; for the length of our voyage from Carthage to the Pillars, was equal to that from the Pillars to Cerné." It seems then, that by their *sea reckoning*, they had only advanced as far, since leaving the strait, as from Carthage to the strait: but the map shews that the line from

* See Mem. Acad. Inscrip. Vol. xxvi.

the strait to Arguin, is 320 G. miles longer, than that to Carthage.* Now, it has appeared, page 700, that a constant current runs to the south, along the western coast of Africa: and this accounts, most completely, for the error of the reckoning; and is, indeed, no contemptible evidence, in favour of the general truth of the journal. But the expression of being on a line with Carthage, is singular, when it was neither on the same parallel, nor under the same meridian. What then constituted the line, in question? Was it the base of a supposed *isosceles* triangle; and that the Author meant to say nothing more, than that they had *come down* from the vertex of that triangle, as much as they had *gone up*? One thing appears certain; that is, that no ideas of latitude and longitude existed at that time.

If we suppose (as before) the southern current to commence about Cape Cantin, the fleet of Hanno might have been subject to its influence near a month, considering the nature of the service in hand; which we may conceive to be that of examining the coasts for places of shelter for ships; and for situations proper to found cities in; as also of making inquiries, concerning objects of commerce. Hence it will not appear extraordinary, that they should have been carried 320 miles beyond their reckoning. In the offing, between Madeira and Cape Verd, the Grenville was set to the southward, 97 miles in 10 days; and from England to Madeira, 206 in 16 days, in the month of May.

Cerné, or rather *Kerné*, called by the modern Europeans *Arguin*, and by the people of the opposite continent, *Ghir*, is in extent only a few miles. The journalist allows it a circuit of five stadia only; an evident mistake, as it contained a city and colony. As the Carthaginians and Phœnicians possessed it in ancient times, so have several of the European nations, in succession, in modern times: and amongst the rest, the English. It is at present deserted, as the establishments on the Senegal river, answer the purpose better:

* See again No. XI, at page 719.

but the ancients seem to have possessed no settlement beyond Cerné.* The articles of commerce collected by the traders at this place, were chiefly ivory, and the skins of lions, panthers, and other animals.† No mention is made of gum, a staple article in modern times; or of gold; but this latter is collected farther to the south.

We shall now enter on the *second division* of the voyage of Hanno, which seems to have been confined solely to objects of discovery. As far as the Gambia, this part has been already considered: and we shall continue it from that point.

"Having supplied themselves with water, they sailed onwards five days, keeping near the shore; and then came to a *large bay*, which their interpreters (the *Lixitæ*) told them was called the *Western Horn*. In this, was a large island, and in the island a salt water lake; and in *this* another island, where, when they had landed, they could discover nothing in the day-time except trees; but in the night they saw many fires burning, and heard the sound of pipes, cymbals, drums, and confused shouts. They were then terrified, and their *diviners* order them to abandon the island."

The bay or gulf of Bissago (or Bissao) is about 190 G. miles from the mouth of the Gambia, and the island of *Bulam*, which forms a part of its southern shore, short of 200. There are several islands within the bay, and opposite to the coast, lies the extensive range of islands and shallows, known by the name of the *Bissagoes*; sheltering the coast for about 120 miles.‡ The distances just mentioned agree well to five ordinary days sailing; and what is more to the purpose, no other part of the coast, within such a distance as is at all applicable to the question, forms a *sound* of such a shape, as answers in any degree, to the idea of a *horn*; as will appear by in-

* For an account of Arguin, see Labat's Voyages, and also Astley's Collection of Voyages, Vol. ii.

† Scylax, p. 54.

‡ These are the *Gorgades* of Pliny, vi. 31.

specting the chart, at page 719. We are aware that Ptolemy and Pliny, in which they are followed by M. D'Anville and M. Bougainville, refer the horns to *promontories*, and not to *inlets* of the sea. However probable such an idea might have been, had the *term* been given, without the *description*, yet here the description is perfect in both the western and southern horns: they were *bays* or *gulfs*, and *contained islands;* and the western horn, in particular, was said to be a *large bay*. Moreover, the description of the island in the latter, is that of a flat alluvial tract, covered with trees; agreeing to that of the islands, in and about this gulf, which are formed of the depositions of the Rio Grande, and other streams, that roll down vast quantities of mud and sand, when swoln by the periodical rains.

Considering the vast changes that alluvial tracts undergo, it would be idle to expect to find the lake and island, above described; as the one may be long ago filled up, and the other become a part of the continent; and that, without any material change having taken place, in the *general* form of the sound itself.*

Leaving the western horn, "they passed by a *country* which was *on fire;* and *streams* of *fire* appeared to run into the sea.† They sailed quickly thence, and at the end of four days, discovered at night a country *full of fire*. In the middle was a lofty fire, larger than the rest, which seemed to touch the stars. When day came,

* An island in this gulf or sound, is now named *Sorcerer's* Island; for what reason, is not said. This was the *term* of the voyage of Cadamosta, in 1456: and which is said to have been discontinued, because the interpreters had got out of their knowledge. Those of Hanno (the *Lixitæ*) failed him, before he doubled Cape Verd; although he took the name of this Western Horn from the same interpreters. It is not said who told him the name of the Southern Horn: but it is certain that the interpreters furnished him with the name of the *Gorillæ*, which are also found higher up the coast, towards the Gambia.

† See above, page 721.

they discovered it to be a large hill, called the *Chariot of the Gods*.* On the third day after their departure thence, having sailed by those *streams of fire*, they arrived *at* a bay called the *Southern Horn*; at the bottom of which lay an island, as in the former, having in it a lake, and in that lake another island,† full of savage people," &c. It was here, that the *Gorillæ* were taken (of which we have already spoken); and this was the term of the voyage of Hanno, southward. We shall now examine the suite of positions, from the bay of Bissago, or the Western Horn, southward.

Twelve days are enumerated between the Gambia, and the Southern Horn; of which five had elapsed at their coming to their station in the *Western* Horn; and we remarked that the distance to Bissago from the Gambia, was 190 miles; being equal to 38 miles per day; which exceeds but little the mean rate. If the amount of seven more such days sailing, equal to 266 miles, be extended southward along shore, it reaches to Plantain Island, situated at about 40 miles beyond *Serra Leona;* and if this island, together with the chain of islands that extend from Cape St. Anne, may be allowed to form the entrance of Sherbro' Sound, we have in that sound, in point of form, a southern horn, which is much on a par with the western one: and it may be added, that, between the two, no bay or sound of such considerable *depth and extent* occurs, that can be compared with either: and that of Serra Leona, which has the fairest claim of any, does not accord with the situation.‡

A suspicion might arise that an interval of time has been omitted, between the Western Horn, and the hill named the *Chariot of the Gods;* but besides that a mountain, answering to the description and

* It does not appear, who named this mountain: probably the Carthaginians themselves.

† What has been said respecting the changes by alluvions in the Western Horn, applies equally here. See the last page.

‡ See again the Map at page 719.

position, is found in that of *Sagres* (vulg. *Sangaree*), there is a notice in Pliny, that serves to confirm the statement of the four days sailing only, from the *Western Horn*. For Pliny says this, in positive terms, lib. vi. c. 30. Moreover, the mountain being situated at about 180 G. miles* from the NW part of the bay of Bissago, agrees very well to the four days sail; as they came in *sight* of it only, on the evening of the fourth day. It is true, that, at the rate at which they sailed between the Gambia river and Bissago, they should have been 28 miles *short* of Sagres, on that evening; but although it be necessary to calculate a *mean rate* for the great portions of distance, yet it is obvious, that at any given time, the fleet might have been more or less advanced, than that mean rate may point out. Moreover, along this whole coast, owing doubtless to the great number of sounds, rivers, and inlets, that penetrate it to a great depth, regular and strong tides prevail; which, of course, might have been made use of, to aid the progress.

The description of the mountain of *Sagres*, combined with that of the adjacent coasts, impresses more conviction respecting its being the hill intended by the Chariot of the Gods, than the measure of the distance alone; whether that might be either four, or five, days sail.

Lieut. Matthews' Chart of the coast between Rio Nunez and Sherbro'; together with his description (in page 10, *et seq.*), shews us that this coast, which extends 65 leagues, or near 200 G. miles, is, with the exceptions which we shall presently state, exceedingly low, to the extent of 5 to 20 miles inland (he compares it to the land at the mouths of the Ganges, which he had probably seen); when it rises gradually; and at 30, to 40 miles, swells into lofty mountains, that may be seen 20 or 25 leagues off at sea. The exceptions to this flat shore, are, first, a lateral chain of high hills,

* If reckoned from the SE part of the bay, the distance will be 17 or 18 miles less.

which strikes off from the great inland mountains, by the straightest line to the neighbourhood of the coast, where it terminates in a lofty conical mountain before spoken of under the name of *Sangaree*, or more properly, *Sagres*. The other exception is, the mountainous coast of Serra Leona, which is about 24 miles in extent, along the coast, and is connected with the great inland ridge, by lateral chains of hills. The space between Sagres, and the nearest part of this mountainous coast, appears to be 50 to 55 G. miles: so that Sagres itself rises from a coast, which is perfectly flat, to such an extent inland, as to render this mountain the great marked feature of the coast. As such it is therefore regarded; and M. Bellin calls it in his Chart, the *land-mark* for the coast: for in approaching it from the sea, it has the appearance of a single mountain: and at a distance, along shore, of a lofty promontory.

Piedro de Cintra discovered this mountain, and the point of *Tumba*,* (within which it stands, at the distance of a few miles) in 1462. His seamen thought it the *highest* land they had seen. They gave it the name of Sagres, from the fortress of that name, built by PRINCE HENRY of Portugal, on one of the points of Cape St. Vincent; a situation apparently chosen by him, because it commanded a grand and extensive prospect of the ocean, to which his magnificent views were extended. This Sagres was distinguished from the other, by being called Cape Sagres of *Guinea*. Prince Henry died in the following year.†

* The Portugueze called it Cape Sagres, from the mountain seen over it. The islands *De Loss*, lie opposite to it, in the *offing*.

Lieut. Matthews places Sagres in lat. 9° 17′; Dr. Wadstrom's Chart, in 9° 24′. The maps of this whole coast, are generally bad: an instance of which may be seen by comparing Governor Dawes's survey of a part of the coast, in Dr. Wadstrom's map, with the ordinary ones. In constructing that of North Africa, in 1798, it was found that the general charts erred *several* degrees of longitude in the extent of the coast of Guinea.

† It appears that the first discoverers, in modern times, the Portugueze, extended the name of *Guinea* to the coast of Serra Leona, and apparently as far as Rio Grande.

This mountain then, may justly be regarded as the *Theon Ochema, Deorum Currus,* or *Chariot of the Gods,* of our voyagers. What the nature of the fire on it, might be, we know not: but Dr. Afzelius, who visited it during his residence in that country, pronounces that it is not a volcanic mountain. As we may conclude that the extensive fires *below*, were occasioned by the burning of the rank herbage in the alluvial plains, for the purposes mentioned by Mr. Park, it is easy to conceive that the fire might ascend the mountain, and burn the dry herbage there, also. Pliny, however, certainly regarded it as a volcano; lib. vi. c. 30. The Portugueze discoverers remarked no fires till they came into the neighbourhood of Cape *Monte:* but it might have been during a different season, from that in which Hanno visited it.

The next, and last, interval of distance, is between this mountain and the Southern Horn; and was three days sail.

Serra Leona is 50 miles, only, from Sagres, and therefore is too near. But Sherbro', as we have said, agrees. For, if the entrance of this sound, or inlet, is admitted to be formed by Plantain Island, on the one side, and the islands of St. Anne, on the other, the distance is no more than 92 miles from Sagres: but admitting the sound to commence at Cape St. Anne, then 112; which allows 34 miles per day: or taking the whole distance from the Gambia, 482 miles,* this divided by 12, the number of sailing days, gives a rate of about 40 per day; which does not much exceed the mean rate.

Sherbro', as nearly as can be judged from the imperfect charts now in use, is a kind of sound formed by one large island, and a great many small ones; and receives into it, three principal rivers, from the side of the continent. Its whole length appears to be fifty miles, and breadth at the western entrance, more than fifteen. Jenkin's Town lies towards the most retired part of it; in which there are some other small islands.

* That is, from the Gambia to Bissago, 190; to Sagres, 180; and thence to St. Anne's, 112: total, 482.

We feel no hesitation in pronouncing *this*, to be the Southern Horn, described by Hanno; and the term of his expedition, southward: for, it may be repeated, small differences, whether in point of distance, or of time, are not to be regarded. And if a mean be taken on the whole voyage from Cerné to Sherbro', the result will not exceed the mean of *all* the examples of the rate of sailing of ancient ships, set forth in the notes to page 679: that is, 37 G. miles.

In effect, two bays or sounds, answering to those described by Hanno; and which have between them, at the prescribed distance, a mountain answering to that called the Chariot of the Gods; that is, at four days sail from the one, and three from the other; can only be found at Bissago and Sherbro'.

Those who may be inclined to consider Serra Leona as the Southern Horn, must recollect that the position of the mountain of Sagres, will not suit the length of the intervals: and the other high lands, are too near to Bissago.

Ptolemy's Western Horn is a *cape*, agreeing pointedly to that of Sagres, or Tumba; his *Deorum Currus* is a ridge of mountains, very far inland; (and to the south of the *Horn*); and the point, at which he places the utmost limit of the knowledge of navigators in the ocean, is about nine degrees, or 540 miles in distance, to the SE of the *Arsinarium* promontory, or Cape Verd; whence it has almost exactly the same relative agreement with that cape, as the point of termination of the voyage of Hanno, has in our geography. It cannot however, be known, from what sources, Ptolemy drew his knowledge: but if from the voyage of Hanno, it cannot well be accounted for, why he should have described as a promontory, what the journalist of Hanno describes as a bay, or sound. One must conclude that any person who had read that journal, could not have made such a mistake.

Pliny had *heard* of the voyage of Hanno, but believed that the account of it was lost: for he says, lib. v. c. 1, that no memorial of

that voyage, or remains of the cities, were to be found. But he had notwithstanding collected several particulars relating to it, which he must therefore have found in other authors, who perhaps extracted them from the original journal, without quoting the authority. It is also to be remarked, that he had heard many particulars relating to the voyage of Polybius, and may have referred some of them to that of Hanno.

He had also heard (see the same chapter) that the Ethiopians kept within doors in the day, and recreated themselves abroad, with music, in the night; as Hanno says. It has also been remarked that he had heard of the Western Horn, and of the mountain that was on fire.

There is also a remark in the same author, which shews his idea of the position of the Western Horn; which he supposed (naturally enough, as he had not read Hanno's journal), to have been a promontory. Says he, lib. vi. 31, " Here (*i. e.* at the Western Horn) the coast *first begins* to face the *west;* or to look towards the Atlantic sea:" that is, as we understand it, the coast there turned from *west* to *north*. Applied critically, this answers only to Cape *Roxo*, which is situated about 120 G. miles to the WNW of Bissago, the supposed bay, or *horn*, intended by Hanno.

Pliny says further, that opposite to this horn, are the islands of the *Gorgades*, two days sail from the continent; and where Hanno caught the two savage women, whose skins he carried back to Carthage. The islands intended, are therefore the *Bissagoes*, an archipelago which extends two degrees along the coast, and some part of which, is certainly, near two days sail from the nearest shore. But as the archipelago extends all the way from a point opposite Cape Roxo, to the bay of Bissago, one of these places is as much opposite to the islands, as the other; therefore nothing can be collected from this circumstance, towards proving which of the two places is to be taken for the Western Horn, intended by Pliny; but

the former observation, respecting the change of direction of the coast, points clearly to Cape Roxo. Perhaps, the registers of the times had confounded together the islands that lay off the bay of Bissago (Western Horn) and the island in the bay of Sherbro' (Southern Horn); where the *Gorillæ*, called by Pliny, *Gorgades*, were taken.

It may therefore be conceived, from a combination of the notices in Pliny, that the Western Horn which he, as well as Ptolemy, had heard of, was a promontory: although the context proves, by the relative position of the mountain of Sagres, that the bay of Bissago is the place to be fixed on, for the Western Horn described by Hanno.

Again, this mountain of Sagres has been shewn to be the Western Horn, intended by Ptolemy; and which, in his geography, is succeeded by a ridge of mountains named *Deorum Currus*, (or Chariot of the Gods);* and this again, by the termination of the discoveries, southward; in regular and proper order: and what is more, the latter station is at such a distance from Cape Verd, as to agree with Sherbro'.† This circumstance is of no inconsiderable weight, in favour of our opinion, respecting the position of the Southern Horn, and the term of Hanno's expedition. But even if, following Pliny, we take Cape Roxo, or following Ptolemy, we take Cape Sagres, for the Western Horn; it will be found that the bay of Bissago is nearly at a mean between the two: and, according to the text of Hanno, the *Horn* ought unquestionably to be a bay or inlet of the sea. And, on the whole, the term of the voyage of Hanno, cannot, in the view of general geography, be greatly misunderstood. And this term was doubtless either at Serra Leona, or Sherbro'; but far more probably the latter, as well from position, as description.

* This ridge appears to be meant for the high land of Serra Leona.

† On the map of Ptolemy, it is 9 degrees, or 540 miles; and on ours, 9½, or 560.

Here it may be proper to add a remark or two, on Ptolemy's geography of this quarter.

Although his chart of the western coast of Africa, has, in its composition, the materials furnished by navigations posterior to those of Necho and Hanno; yet the term of those navigations, in other words, the boundary of discovery, appears clearly to be the same with that of Hanno.

Now, it seems improbable that other navigators should have terminated their progress, precisely at the same point with Hanno; when the circumstance that arrested his progress, was the want of provisions! Indeed, had it been at a promontory which formed the termination of a continent, and in a stormy sea withal, this might have happened repeatedly: but the *term* of discovery in question was situated on a straight coast, which presented no obstacles to their progress.

The chart of Ptolemy may even have received aids from the observations of Polybius: but, at all events, there arise in it, strong proofs, that parts of it were formed of materials of a date posterior to Hanno. For instance, in the journal of this commander, the river Gambia is no otherwise noted, than as a great opening of the sea, with a plain on each side of it; but it appears in its proper form, and with a name to it, in Ptolemy. Other instances might be adduced. Hence it appears that other voyagers had filled up some of the *blanks*, left by Hanno, although none of them might have proceeded so far as he had: and these might have conducted the traffic in gold, mentioned by Herodotus. See page 716. In effect, Ptolemy's geography of this coast, may be supposed to mark the extent of the Egyptian and Carthaginian traffic, at a period long after the famous voyage set on foot by Necho; probably whilst it was yet remembered, although it might have been forgot in the time of Ptolemy.

We shall close our geographical remarks, with some strictures

on the opinions of some celebrated modern geographers, on the subject of this voyage. Amongst these, M. D'Anville, (who, if not always *right*, is, for the most part, nearer to it than others), agrees with our ideas *generally*, as to the *extent* of the voyage; but differs in the *detail*.

M. D'Anville has not ventured to place the promontory of *Soloeis*, in his *Orbis veteribus notus*. The Western Horn, according to him, is Cape Roxo; the southern one, Cape St. Anne, or the point of Sherbro' sound: and the mountains of Serra Leona, represent the *Chariot of the Gods*. Hence it appears evident, that this great geographer followed the authorities of Pliny and Ptolemy, in preference to that of the journal of Hanno.

As to M. Bougainville, his judgment appears to have forsaken him entirely. The foundation of his principal error, lies in the supposition that the ancient ships sailed at much the same rate, as the modern ones. In the journal, 26 sailing days are reckoned between Cerné and the place of the Gorillæ. M. Bougainville places the latter in the bay, or *bight* of *Benin*, nearly 1900 G. miles from Cerné (or Arguin); so that he transports the voyagers in 26 days, as far as Capt. Price, in the Royal Charlotte East-Indiaman, in 1793, sailed in 23 days, with a fair wind, and favourable current: for this was the interval of time employed, between the parallel of Arguin and the meridian of Benin! This might suffice: but we shall also remark that M. Bougainville's *two horns* are Cape Palmas and Cape Three-Points; between which he finds the hill *Deorum Currus*. These points are 270 miles asunder; so that, as seven days sail are allowed between them, in the journal, a rate of 39 only per day, arises here, notwithstanding he is so extravagant elsewhere. But there is no end to his mistakes.

As M. Bougainville *doubles* the extent of the voyage from Cerné, so Mr. Gosselin contracts the *whole* extent of it, within Cape Nun: for it seems, he confines all the ancient navigations within this

boundary.* Mr. Gosselin confines it to less than $\frac{1}{5}$ of the space allowed by Bougainville; $\frac{1}{4}$ of that allowed by D'Anville. What a contrariety of opinions! Not to insist on the improbability of Hanno's employing $32\frac{1}{2}$ days (the *specified* number, although the voyage was certainly longer) in sailing from the strait to Cape Nun, which allows a rate of about 17 per day, only; it may be asked, where, within Cape Nun, are to be found the deep bays with islands; the island of Cerné, situated in a deep recess of the land, which was a day's sail across; the great river which contained crocodiles and river horses; the Ethiopians, and the Gorillæ? Certainly not in the kingdoms of Morocco and Sus.

Having, we trust, arranged the geography, or rather the hydrography, of the voyage, we shall add a few remarks which naturally arise on the subject of the voyage itself.

It has appeared that the Carthaginian or Libyphœnician cities founded by Hanno, were all situated between the strait of Gibraltar and the river Senegal; and of these, all but Cerné, to the north of Cape Bojador. It does not appear that any attempt was made to fix an establishment to the southward of Cerné, notwithstanding that they sailed into the river of St. John *(Chretes)*, as well as into that of Senegal, which we must naturally suppose to be the one which was said to be "large and broad, and full of crocodiles and river horses." This was the extent of the first expedition of discovery, southward from Cerné: and it may be supposed, with a *part* of the fleet only (as they were repulsed in their attempt to land, in the river Chretes) whilst the crews of the rest might have been employed in the formation of the new settlement, and in collecting provisions.

In the second expedition southward, they double Cape Verd, and sail across the mouth of the Gambia, called by them "an immense opening of the sea," bounded by plains. As *discovery* seems to

* See note to page 673.

have been at least a *part* of their object, it appears strange that they should not have sailed *into* it: and equally so that they should not have discovered, by appearances, that it was the mouth of a large river. This circumstance seems, at least, to establish a fact, respecting the season, in which they visited this coast: which was probably when the waters of the Gambia ran pure, and with an easy current, into the sea. It was therefore the season of northerly winds, and dry weather; that is, after October: and this has already appeared, by the fires, which can only be referred to the annual burning of the dry herbage, some time after the rainy season.

It is indeed remarkable, that beyond that of Senegal, no mention is made of any river; although they certainly entered the mouth of the Rio Grande, and that of Sherbro': but perhaps this ought to be placed to the account of the extreme brevity of the abstract.

As far as the scanty notices in the journal, allow a judgment to be formed, one may certainly suppose that the *greater* river Lixus, (taken for that of St. Cyprian, upwards of 90 miles to the northward of Cape Blanco) was the utmost bounds of the Carthaginian knowledge, previous to this expedition. They seem to have been well acquainted with the *Lixitæ*; and therefore, it must be supposed, had visited that coast before. Beyond this tribe, their knowledge seems to have been extremely vague, and rested on the information of others.

Next to the Lixitæ were the *Ethiopians*, styled "inhospitable" by the journalist: and it appears that these extended along the whole coast, to Cape Verd. As their language is said to have been unintelligible to the Lixitæ, who performed the office of interpreters to the Carthaginians, they must of course have been a different nation; but it may be questioned, whether they were Negroes. Their being blacker than the northern tribes, with whom the Carthaginians were accustomed to communicate, might

alone occasion the application of *Ethiopian* to them: and they may have been either the *Leucæthiopes*, whom Pliny places to the northward of *Nigritia* (lib. v. 8), or the *Sanhagi*, or *Assanhagi*, from whom the promontory of Cape Verd is named in Ptolemy. (See above, p. 428.) In all probability, the Negroes were never settled very far to the north of the arable lands. The ideas of Herodotus respecting the two nations of Africans, and Ethiopians (Moors and Negroes), will be found, in p. 427.

No kind of traffic was opened with any of the southern tribes, during this voyage. All was hostility on the south of Cerné.

Considering then, the nature of this voyage, is it an improbable conjecture that it was a consequence, either immediate, or remote, of the voyage set on foot by Necho; and which discovered to the Carthaginians, though, perhaps, unintentionally, certain sources of traffic, (gold particularly), as well as proper stations for colonial establishments? The historical facts are so scanty, here, that we are even left to conjecture the cause of an extensive system of colonization, executed *at once*, so contrary to the usual practice, which proceeds gradually in such a work.*

We suspect that the Egyptians at that period, are to be regarded as rivals in commerce and discovery, to the Carthaginians: that the celebrated voyage of the former, in which they were aided by Phœnician experience and skill, must have excited a great degree of commercial jealousy amongst the Carthaginians, who would doubtless seize on every opportunity of contravening the trading schemes of others; and were alive to every nautical discovery. Let

* Dr. Franklin supposed that no more than 80,000 English people had been brought over to America, out of the million which it was supposed to contain, in 1751. The Doctor adds, "This million doubling, suppose but once in 25 years, will, in another century, be more than the people of England; and the greatest number of Englishmen will be on this side the water." But it seems that the increase has proceeded even more rapidly than the Doctor expected.

it be recollected what rivalship was excited in Europe by the discoveries of the Portugueze and Spaniards, at the close of the 15th century; as well as, in a degree, by the more recent discoveries of Capt. Cook; and we may then readily conclude that the Carthaginians, who were more commodiously situated for a commerce beyond the straits, than the Egyptians; perhaps also, more in habits of trafficking, would be industrious at once to avail themselves of new advantages, by the discoveries of a rival. The placing of colonies, or in other words, of *garrisons*, in favourable situations, along the western coast of Africa, would have been a decisive stroke in favour of such a policy; and a measure of this nature, combined with a further examination of the coast, southward, beyond the limits of their colonization, was, as we find, the scope of the Carthaginian plan, executed in part, by Hanno. Whether the expedition immediately followed the discoveries of Necho, or whether the subsequent reduction of Egypt and Tyre, under one master (the Assyrian), 30 or 40 years afterwards, might render the measure necessary to the Carthaginians, cannot now be known: but circumstances may have determined the moment of execution, although the measure might have been decided on, from the date of the first report of the Egyptian discoveries. But, at all events, we regard the date of Hanno's expedition, to be subsequent to that of the Egyptians, under Necho; though not long after it.

We have remarked, that some of the descriptions of the lands seen by Hanno, belong to former discoveries; and others, to those made during that voyage. There can be little doubt of their having a pre-knowledge of a coast, on which they had not only determined to plant colonies, but had actually sent the colonists in the fleet. However, their knowledge seems to have been so slender, in the part beyond Arguin, that it could only have been derived from hearsay.

As to the immediate object of the southern expedition, although

it was so far a voyage of discovery, as that the coast was new to them, yet they appear to have been in quest of some interesting object, more remote, and which is not expressed in the journal: and the knowledge of which object, might have transpired from some of the Egyptian circumnavigators. How far they intended to proceed, we know not: but it seems very unlikely that Hanno, at this time, intended to sail round the continent, as Pliny says he actually did (lib. ii. 57). The practicability of it, had already been decided; so that no question of *curiosity* remained; and their views of *profit* were nearer home; probably in those parts known at present by the names of the *Gold* and *Ivory Coasts*. Towards that quarter they were proceeding, when the want of provisions prevented their further progress; a circumstance very likely to have taken place, in a fleet which had been crowded with passengers, during a part of their voyage: and which deficiency they had not been able to supply, because they had failed in their attempts to open a communication with the natives, along the coast.

CONCLUSION.

Thus having drawn from the great and celebrated work of the FATHER of profane HISTORY, the various geographical notices with which it abounds, the Author has endeavoured to form the whole into a general system, such, as it may be conceived, existed amongst the Greeks of that day: and having completed the plan, with great deference has submitted it to the inspection of the Public, from whose tribunal he hopes for a favourable judgment, since its decrees admit of no appeal.

It is possible that some readers may have condemned the work,

for its containing matter, in their opinion, foreign to the main subject; and others for its being, altogether, too diffuse. With respect to the first class, it may be remarked that any system, in order to be understood, must be regularly gone through; and it happens that the dryness of geographical detail is such, that a continued series of them would rather be *referred to*, than *read:* so that the intention of explaining a system, would of course have been frustrated. It has therefore been the study of the Author, to intermix with the geographical matter, such ingredients, as, whilst they served to consolidate the whole mass into a regular form, would also give it the most agreeable colouring: in other words, that by the addition of history, which, it is the proper office of geography to explain; by miscellaneous remarks and observations; and occasionally by remarks on the physical geography; he might supply in part that interest, which the generality of readers must ever find wanting, in books of science.

In respect to objections to the *bulk* of the work, taken absolutely, the Author can only answer in the words of an eminent historian, that "he, who in the description of unknown things, affects too much brevity, seeks not so much *that* which should be plainly told, as *that* which should be passed over."* In effect, a great many of the notices afforded by Herodotus, could not be so well explained, or illustrated, as by a reference to the works of other authors; or by the introduction of foreign matter.

It is a remark of Polybius on this very subject of geography, that the ancient authors who had written concerning it, had fallen into so many errors, that it was necessary to enter into a full and deliberate examination of them; but, at the same time, he with great candour, allows, "that their labours deserve on the whole, rather praise than censure; and that their errors are ever to be corrected in the gentlest manner; since it is certain, that they would them-

* Ammianus Marcellinus.

selves retract or alter many passages in their works, if they were now alive."*

The Author will receive that reward for which he has toiled, if the Public, during the perusal of his work, have regarded it with the same sentiments, as those which possessed the mind of Polybius: and which may be productive of more advantage in the present, than in the former case; since the Author hopes that he may be enabled, in person, to retract, or alter, what the discernment of his judges may condemn.

* Lib. iii. c. 5.

ADDENDA.

I. *Concerning* BABYLON.

CAPTAIN CUNINGHAME passed over the site of Babylon, in his way from Aleppo to Bussorah, in 1785; and thus describes what he saw:

"Approaching within a few miles of Hillah, on the east side of the Euphrates, and without any expectation of seeing the ruins of any city, my attention was suddenly arrested by the sight of long mounds of earth, running parallel to each other, and having others crossing them at right angles. Fragments of bricks or tiles, some of variegated colours, were scattered about, and lying in the hollows between the ridges; and at intervals, remnants of foundation walls, appeared. My guides told me it was *Macloube;* but as I could speak little Arabic, and did not meet any one at Hillah, who could speak English, I knew not, until I reached Bussorah, what place I had seen: and that it was unquestionably the site of ancient Babylon, that I had passed over.

"I remarked one mound that was very large, and of a circular form, and which had round its base pieces of coloured tiles or bricks: the blue colour, in particular, attracted my attention. This mound could not be far from the river, as we soon after came on its bank." (*Refers to page* 369.)

"The greater part of Hillah appears to be built of furnace-baked bricks, which is different from what I saw in other places. All Bussorah is built of sun-dried bricks: so that after heavy rain, the falling of houses into the streets, is no unusual sight." (*Refers to p.* 366.)

" The city of Bussorah is certainly more than seven, but less than twelve miles in circuit. It has corn fields, date groves, and gardens, within its walls. Near half of the area, I conclude, is built on." *(Refers to p.* ~~345~~.)

II. *Concerning the* OASES *of* EGYPT, *and* AMMON.

Mr. Browne adds to his former description, the following circumstances:

" Even in that part of the district of El-Wah called Charjé, the vegetable soil by no means occupies the whole space; but each spring forms an insulated mass, round itself. Near the town, and between the gardens, is a sandy surface, in which the palm grows, but which, in great part, is not fit for gardens. There are irregularities of surface; and in the lowest ground rice is cultivated. At Siwa, the soil is not so interrupted by sand, but continuous and level." *(Refers to p.* 548.)

" There are some other villages besides those I have marked, in El-Wah, but not immediately in our route, and in themselves, inconsiderable. A few scattered palm trees are also met with, at intervals." *(Refers to p.* 564.)

" The word *Gherbi*, in the vulgar dialect of Egypt, is commonly used to signify *western*; why applied to the Lesser Oasis, I cannot positively say.—Though they sometimes, if I mistake not, call the Greater Oasis by the name of *El-Wah el Kibli*, which in that dialect means the southern." *(Refers to p.* 565.)

" In saying (p. 29.) that " the temple may be buried in the sand," I meant not to suggest that this could have happened at Siwa; but, on the supposition of its having belonged to some other Oasis, that both island and temple might thus have perished." *(Refers to p.* 602.)

The COMMITTEE of the AFRICAN ASSOCIATION have just received the following short notice respecting the remains at Seewa, from Mr. Hornemann (see note to p. 602), contained in a letter from Tripoly, dated 19th August, 1799. His journal which contains the details, is not arrived.

" Siwah is, without doubt, the country of the ancient Ammonians. I found some ruins, and a great number of catacombs, there. Of one part of the ruins, there are only the foundation walls to be seen. Another part consists of the foundation walls of a large building, within which, and near the middle of it, are seen the ruins of a remarkable edifice. It stands on an eminence, composed of limestone; and is, as I conceive, the same that Mr. Browne saw. I should take these ruins, for those of the Temple of Jupiter Ammon, if the description of it in Herodotus, was not so unlike what I saw. I entered more than 80 catacombs. They were in four different places; but there was a fifth, said to be under ground, which I could not get any body to shew me. I could find no whole mummies, but abundance of skulls, and other bones."

III. VARIATION *of the* MAGNETIC NEEDLE, *at Alexandria.*

By observations made there by the French, in 1798, the variation was 13° 6′ westerly. M. Niebuhr reports 11° 4′ there, in 1761, and M. Chazelles, from 13° 7′, to 12° 30′, in 1694. (See Zach's Geog. Ephem. for July 1799, p. 62). It is probable, therefore, that the variation is not taken too high, at 15°, in the meridian of Parætonium. *(Refers to p. 572.)*

IV. *Further Notices respecting the* LOTUS *Fruit, appear in Mr. Browne's Travels.*

He saw two kinds in Darfoor, (Dar-Fûr) named *Nebbeck.* (See

the description in p. 270.) He adds, "the natives eat the fruit, fresh or dry; for it dries on the tree, and so remains, great part of the winter months. In that state it is formed into a paste of not unpleasant flavour, and is a portable provision on journies."

Here then, we have the lotus at the eastern, as well as the western, extremity of the African Desert. *(Refers to p. 629.)*

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*** The Names belonging to ancient Geography, are in Italics. The Roman Figures refer to the Preface, the Arabic ones to the Book, generally.

††† Abbreviations.—I. Island. R. or Rs. River, or Rivers. Mt. or Mts. Mountain, or Mountains. C. Cape, or Promontory. L. Lake. Tr. Tribe.

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Printed by W. Bulmer and Co.
Russel-Court, Cleveland-Row,
St. James's.

ERRATA.

Page 1, Note—read, *principal.*
—— 16, notes, line 9—for 80, read 86.
—— 18, notes, l. 7—read, general mean, 990.
—— 19, note, l. 10—result, 4,3 R. M.; and 43 stades.
—— 47, l. 22—for *so*, read *such.*
—— 52, end of the note—add, *No. I.*
—— 55, note, l. 1—add, *the Indus excepted.*
—— 76, l. 5, after *instance*—read, *of migration at large*, there is, &c.
—— 95, l. 3—for *by*, read *with.*
—— 160, l. 10—for *refers*, read *refer.*
—— 170, l. 3—for *Herodotus*, read *Eratosthenes.*
—— 180, l. 13 from bottom—read, *Harmozia.*
—— 188, l. 10, and throughout—read, *Amisus.*
—— 198, l. 15—read, no distinction of *the above* kind, &e.
—— 200, 2d note—Remark. It has since been found necessary to substitute the observations of Mr. Eaton, between Constantinople and Sinope.
—— 221, l. 2 from bottom—read, as *the Sacæ* had, &c.
—— 222, note—read, *Colonel* Kirkpatrick.
—— 235, l. 15—read Bythinia, *or* Asiatic Thrace.
—— 240, last line—read, of *our Author's* work.
—— 259, l. 4 from bottom—read, *Salahiah*, or *Salhia*, anciently *Sile.*
—— 265, note, l. 9—read, *intended.*
—— 270, l. 11 from bottom—read, *distinct.*
—— 301, notes, l. 4—read, *Platæa.*
—— 323, add a note—The above was written previous to the campaign of 1799.
—— 379, l. 4—read, *omits.*
—— 404, l. 2—read, *as a matter* of course.
—— 416, l. 6—read, Section *XXI.*
—— —— l. 10—read, *induce.*
—— 423, l. 10—read *is.*
—— 428, l. 10, and throughout—read, *Kasseena.*
—— 430, notes, l. 10—add, *These were named Automoli; meaning Deserters.*
Page 434, line 4 from bottom, and throughout—read, *Verde.*
—— 436, note, l. 2—read, *appear.*
—— 439. The reader is referred to the Travels of Mr. Browne, for further information respecting *Darfoor*, or *Darfur.*
—— 444, note, l. 7—read, *The Nile of Makedsh* is said, &c.
—— 446, last line—read, *absolutely.*
—— 449, l. 6—read, *lines.*
—— 454, l. 4—read, *instead.*
—— 455, l. 18—read, *Hercules.*
—— 459, l. 10 from bottom—read, *the* swelling.
—— 462, l. 11—read, *Pharbæthus.*
—— 469, l. 7—read, *positions.*
—— 495, l. 7 from bottom—read, *to* the south.
—— 520, l. 11—read, *only* navigable, &c.
—— 522, l. 14—read, curvilinear *border.*
—— 527, last line—read, *Niciu.*
—— 536, note, l. 4—read, within *the branch that formed the ancient* Delta.
—— 548, l. 9 from bottom—read, *that* there is, &c.
—— 557, l. 5—for *somewhat*, read *considerably.*
—— 561, l. 9—read, *Oasis.*
—— 562, l. 3—for 29°, read 28°.
—— 570, l. 5—read, *those.*
—— 573, l. 13 from bottom—put a *comma* after *coast.*
—— 637, l. 7 from bottom—read, *Maharess.*
—— 705, l. 2—read, within *the space subject to periodical winds and currents*, the extensive, &c.
—— 709, l. 10—read, *common*, or *ordinary* accidents.
—— 717, l. 17—read, *formed* the boundary, &c.
—— —— note, and throughout—read, *Cadamosto.*
—— 720, l. 4—read, *a* comparison.
—— 725, note, l. 2 from bottom—read, *Vicenza.*
—— 742, l. 3 from bottom, a line omitted—read, a different nation *from those which they had been accustomed to*; but, &c.